Supplementary Croonian Lecture

ON

POINTS CONNECTED WITH THE PATHOLOGY AND TREATMENT OF DIABETES.

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MR PRESIDENT, COLLEAGUES, AND GENTLEMEN,—I appear before you to-day to draw your attention to points connected with the pathology and treatment of diabetes. They constitute the outcome of the study which formed the basis of the Croonian Lectures delivered by me in 1894 and of the study I have since conducted. Disease is a deviation from health, and for its proper comprehension we require to have a knowledge of the conditions belonging to health. It is just this in the case of diabetes that it has been difficult to obtain and the complaint has stood as one of the most inscrutable of diseases. The question first presented for solution is, How does carbohydrate normally become disposed of in the system? Next follows the question, What is it that gives rise to its unnatural escape with the urine?

Briefly stated, diabetes may be said to consist of a malapplication of the carbohydrate principles of food. Common observation teaches us that when the various forms of carbohydrate matter are taken by a healthy person with the food they become lost sight of and contribute to the benefit of the system. The system has the power of placing them in a position to be susceptible of utilisation, and they thus disappear from view with resultant good. In the case of the diabetic, however, the carbohydrate matter that is ingested fails to undergo proper application, and passes, instead, as sugar through the system to the urine, with which it is discharged as waste material. This is the plain statement of fact regarding the difference between health and diabetes, and what is wanted is a right understanding of the details concerned.

It has been hitherto assumed, without any positive evidence as a basis, that the carbohydrates undergo oxidation in a direct manner in the system. Liebig placed them in his group of calorifacient food principles. In his time physiology and chemistry were not sufficiently advanced to permit of carbohydrate matter being followed after being taken as food so as to obtain information of the phenomena occurring. The first step in this direction was the renowned work of Bernard. Bernard, accepting the view that the carbohydrates are destined for the purpose of oxidation within the system, enunciated the doctrine that the liver is endowed with a glycogenic function which provides a supply of sugar to be conveyed to the tissues for oxidation when carbohydrate matter is lacking in the food. I need not give attention here to the faulty groundwork upon which the glycogenic doctrine was raised. This matter has in times past been amply dealt with. Notwithstanding, however, that it is recognised that the experimental groundwork is fallacious the doctrine has become so firmly implanted in the mind as to render effacement difficult. Apart from other considerations, what it implies affords its condemnation. In order that sugar may reach the tissues for oxidation it must enter the general circulation. Now it happens that the stream of blood alleged to convey sugar to the tissues for destruction in part goes to the kidney. It was formerly taught that the capacity existed of tolerating a certain amount of sugar in the blood without its passing off with the urine, and this tolerating capacity was asserted to have been found in the dog to stand good for a proportion of 2·50 per 1000; in other words, when sugar amounted to 2·50 per 1000 in the blood sugar escaped with the urine, but not when a less proportion existed.

At that time neither for blood nor for urine were the analytical methods for the recognition and determination of sugar in the satisfactory position in which they stand now. Modern physiologists are agreed that the amount of sugar normally present in blood is about, or a little under, 1 per 1000; and in association with this it can be definitely stated that sugar passes into the urine. It can also be definitely stated that in association with 2·5 per 1000 of sugar in the blood such an amount passes into the urine as to give it a pronounced saccharine character. The question of the presence of sugar in normal urine long stood, or was considered to stand, as a debatable point. The discussion on the subject that took place in the pages of THE LANCET a few years back, in which I took part, will probably be remembered. The method formerly adopted for separating the sugar from the urine and obtaining it in sufficient quantity for its satisfactory identification was by precipitation with lead acetate and ammonia. Operating upon the product yielded by this process I obtained information which left no doubt in my own mind that sugar constitutes an ingredient of healthy urine. More recently Baisch and others have operated with benzoyl-chloride. By this reagent sugar may be precipitated and can afterwards be recovered in a pure form. From the evidence that has been obtained the matter may be considered to have been thoroughly set at rest. Not only, indeed, can it be said that sugar has been found, but likewise that its nature has been defined.

The point to which we are led is that no tolerating capacity exists against elimination by the kidney of sugar present in the blood. As it is present so it escapes, and the urine thus becomes a delicate indicator of the condition of the blood. By experiment it can be shown that sugar introduced into the circulation is at once revealed by the urine. I have found that even as small a quantity as a quarter of a gramme per kilo. body weight—that is, a four-thousandth of the weight of the animal—intravenously injected has given evidence of influence upon the urine. Where larger quantities are used a more or less pronounced elimination occurs, and the blood even an hour afterwards has not regained its normal constitution, but still retains a surplus of sugar. This tells against the assumed destruction in the systemic capillaries being the natural mode of application of sugar in the animal economy. It is sufficiently evident that the kidneys constitute the channel through which the sugar permitted to reach the circulation in diabetes is discharged from the system. The action of the kidney in relation to sugar is not different in health from that in diabetes. The only difference is one of degree determined by the difference in the amount of sugar existing in the blood. It is not surprising that in former times healthy urine was regarded as being free from sugar. The quantity is too minute for the chemical methods then at command to reveal. With the improved methods of the present day the sugar which is present in healthy urine, and is derived from the small amount naturally existing in the blood, is readily susceptible of demonstration.

From the considerations that I have mentioned it is permissible to look to the urine for the supply of knowledge regarding the entry of sugar into the blood of the general circulation, and to reason as follows in relation to the glycogenic doctrine. Under natural circumstances the blood contains a certain small amount of sugar which may be considered as constitutionally belonging to it, just as is noticeable with the other constituents of the body. Physiologists are agreed that the amount of sugar in the blood is not altered by the amount of carbohydrate ingested. Within ordinary limits both the blood and the urine remain uninfluenced by the character of the food with respect to carbohydrate. It matters not whether the comparatively insignificant amount of carbohydrate existing in an animal diet or the large amount contained in many articles of food from the vegetable kingdom be ingested the result is the same. But could this be the case if the ingested carbohydrate had to be conveyed as sugar through the general circulation to the systemic capillaries to be there disposed of? It would mean that, notwithstanding the demonstrable fact that whilst the introduction of an exceedingly small amount of sugar into the circulation gets revealed by the urine, a surpassingly large amount can reach it from the food without evidence being afforded of its doing so. The circumstances are such that whatever presumably passes to the tissues for destruction would equally pass to the kidney for elimination. If the kidneys were placed on the other side of the systemic capillaries there might be destruction without elimination. But it is the same stream that goes to the systemic and to the renal capillaries, and for the teaching to hold good it would have to be assumed that destruction could proceed and elimination remain in abeyance. By the ingested carbohydrate being temporarily stopped,

by the liver and stored as glycogen the difficulty is not removed. Within a given time the transit would have to be made, and the amount transported under a free carbohydrate diet would be infinitely greater than could be derived in any way from animal food, and yet it escapes being revealed by the urine. What the quantity is that would have to pass may be judged of by the difference in the amount of sugar eliminated by a diabetic patient partaking freely of carbohydrate materials on the one hand and upon animal food only on the other. Everyone knows the immense difference existing, but I may mention in illustration the figures drawn from a case in which many years ago I specially studied the effect of different kinds of food on the elimination of sugar. The sugar voided during a twenty-four hours' period on a diet exclusively of animal food stood at thirty-seven grammes, whilst for a similar period with a diet containing a plentiful supply of carbohydrate material it reached 685 grammes. This gives an idea of the amount of sugar that would have to traverse the circulation if the carbohydrate matter of our food had to be conveyed as sugar to the tissues for destruction. And yet in the healthy state the urine escapes without any effect being produced upon it. If in reality the functional transit did take place it could not fail to be rendered conspicuously evident by the urine. The transit, indeed, is just what belongs to diabetes, and I submit that this consideration is fatal to the glycogenic doctrine. For freedom from diabetes, carbohydrate matter must be prevented reaching the general circulation as sugar instead of being thrown into it as such for conveyance to the tissues for destruction. And now the problem that presents itself for our consideration is, In what way does the carbohydrate matter of our food become disposed of so as to be prevented reaching the general circulation as sugar. Any explanatory proposition that is offered must necessarily locate the seat of the disposal as standing between the alimentary canal and the point where the portal blood-stream obtains entrance into the general circulation. If it were located beyond this point, unless the capacity existed, which may be confidently said not to be the case, for effecting an instant removal of sugar directly the general circulation is reached, the conditions would be supplied for the urine to be influenced as it is found to be in the diabetic state.

What I have to say with reference to the mode of application of carbohydrate matter within our system fits in with what is observed to occur throughout living nature. The operations of animal and vegetable life are brought into harmony with each other. In one of the simplest of organisms—namely, in the yeast cell—a demonstration is afforded of the occurrence of the operations which I submit lead to the carbohydrate matter of our food being disposed of in our system without the opportunity being given of its reaching the general circulation as sugar and thence escaping as waste material with the urine. It is only gradually and as the result of life-long attention devoted to the subject, in association with unceasing laboratory work, that the knowledge has been acquired upon which the new doctrine is based. Much help has been afforded by the teachings of experience in connexion with diabetes, and whilst these are absolutely irreconcilable with the old doctrine upon which physiologists have been relying, they in the most complete manner fall in with, and give support to, the new one. The subject is fully considered in my work on "The Physiology of the Carbohydrates," published in 1894, and it will only be requisite here to enter into sufficient detail for the comprehension of what is being spoken of. The carbohydrates, as we know, are susceptible of being transmuted from one to the other by increased and decreased hydration. Ferments and chemical agents move them in the former direction, and the operation is one that we have the power of inducing at will. Transformation in the latter takes place to an unbounded extent in the living world, but if we exclude a few special instances of laboratory achievement we have not the power ourselves of bringing it about. The first influence exerted on ingested carbohydrate is by the ferments of the alimentary canal, which hydrolise and carry the insoluble into a soluble form, and thus prepare for absorption. On being absorbed the carbohydrate is brought within the sphere of influence of living matter. In the villi, which constitute the seat of absorption, there are active cells with which the absorbed carbohydrate falls into close relation, and subsequently it permeates the cellular structure of the liver, which thus, as it were, stands in a position to exert a supplementary action, and to complete before the general circulation is reached whatever may have escaped completion in the villi.

Now, by the agency of protoplasmic action or the power possessed by living matter, carbohydrate is (1) transmuted to a lower form of hydration, (2) transformed into fat, and (3) synthesised into proteid. All these operations can be definitely shown to take place in the simple cell organism of yeast as the result of the power with which its protoplasm is endowed, and the power here represented is nothing more than the common property possessed by protoplasm in general of both kingdoms of nature. Whilst ferment action hydrates and breaks down, protoplasmic action dehydrates and builds up, and it is by the influence of this latter power, I contend, that carbohydrate naturally becomes disposed of in the system instead of by ferment action leading to the production of sugar that is fictitiously assumed to undergo oxidation whilst traversing the systemic capillaries.

Between the seat of absorption and a point short of the general circulation being reached by the portal stream of blood, I say, we have to look for the disposal of the carbohydrate derived from our food, and it is by the exercise of protoplasmic power that what occurs is brought about. Ferment action has performed its office within the alimentary canal, in putting the carbohydrate matter, if it should be in a form to require it, into a fit state for absorption. If the disposal is completely accomplished no sugar is left to reach the general circulation, and if none reaches the general circulation there is none to reach the urine. This represents the natural order of things. If, on the other hand, the disposal of carbohydrate by the exercise of protoplasmic power should not be properly effected—if, in other words, the circumstances should be such as to lead to the faulty accomplishment of protoplasmic action, or if, even with a natural state existing as far as the system is concerned, it should happen that the function is unduly taxed by the ingestion of an exceptionally large amount of carbohydrate in a readily absorbable form, especially at a period of fasting, sugar will be permitted to reach the general circulation, and in proportion as this occurs sugar will be found in the urine.

The process of transmutation into the lower state of hydration is exemplified by the production of glycogen in the liver. Carbohydrate which escapes being transformed into fat or synthesised into proteid passes on to the liver and here, according to the evidence presented, it may be looked upon as undergoing, in the first instance, the change of state referred to. It is well known to physiologists that the liver becomes charged with glycogen in proportion to the largeness of supply of carbohydrate with the food. Possessing the colloidal property that belongs to it, it forms a serviceable storage material, which, placed in the position it is, is favourably situated for being gradually utilised by transformation into fat and possibly synthesis into proteid. That it should be destined to come back into sugar to be discharged into the general circulation and conveyed as such to the tissues for oxidation is incompatible with the condition in which healthy urine is found.

It was a subject of dispute in former times whether animals possessed the power of forming fat from carbohydrate. The matter is not now open to question. The power, indeed, is largely turned to account by those engaged in husbandry for the fattening of animals for the table. In the practice of our own profession if we want to reduce obesity we advise the restriction of the carbohydrate articles of food, and conversely we recommend that they should be freely taken if we wish to fatten. For many years the state of the lacteals of the rabbit after a meal of oats has been fixed on my mind. Formerly it stood unintelligibly before me, but now I think the meaning is to be read off. It is common knowledge that after fatty food the lacteals of the dog, for instance, are to be found conspicuously injected with milky chyle. In the rabbit, when in a vigorous but not when in a poor or sickly state, fed on oats and taken at the proper time afterwards, I have seen the lacteals about as fully injected with milky chyle as in the dog after fatty food. Oats in their dry state contain about 5 per cent. of fat, which I am convinced upon full consideration of the matter is altogether inadequate to account for what is observed. The extent to which the villi under the circumstances are charged with fat globules I have represented by photo-engravings from micro photographs in my work on "The Physiology of the Carbohydrates." It is admitted that animals are fat producers from carbohydrate, and with its

production in the villi it reaches the system and subsequently passes on in precisely the same way as fat derived from without. In the one case we have to deal with fat emanating from a ready formed supply and in the other with fat formed by the protoplasmic agency of the cells of the villi, for it is not for a moment contended that what occurs is of the nature of a mere chemical transformation. As carbohydrate may happen here to be applied to fat production, so have we a provision in the direction wanted for preventing its reaching the general circulation as sugar. There are grounds also for believing that a further formation of fat is effected by the protoplasmic agency of the cells of the liver.

That carbohydrate can be turned to account in contributing to proteid production is demonstrated by the growth of the yeast cell in a medium containing no other source than sugar for the carbon constituent of its protoplasm. Further, carbohydrate is susceptible of being cleaved off from the proteid molecule. The proteids entering into our constitution do not enter the system in a ready formed state. The proteid matter of food is as a first step towards its application to the purposes of life broken up by the ferment agency of digestion. The absorbed products of digestion then fall into relation with the living protoplasm of the cells of the villi. Peptone, which is recognisable previously to the occurrence of absorption, now becomes lost sight of, and in view of all the circumstances existing it may be taken as reasonably permissible to conclude that through the instrumentality of protoplasmic action an extensive building up of proteid goes on in the villi.

By synthesis into proteid carbohydrate matter is placed in a position to be susceptible of transport through the system without running off with the urine. At the same time it is evident that its liberation from the locked-up state into a free form can be most easily effected in the presence of suitable conditions. The lactose of milk cannot reconcilably with our collateral knowledge be conveyed as such to the mammary gland, but must constitute a cleavage product resulting from the effect of—may it not be said?—ferment agency existing within. In the grave form of human diabetes, as well as in the experimentally induced phloridzin and pancreatic diabetes, sugar is drawn from a source other than the food, and the large quantity that can be eliminated testifies to the abundant store of locked-up carbohydrate that must exist ready to be set free when the requisite agent for effecting the purpose is present, just as the sugar in amygdalin is set free in the presence of emulsion.

What has been said of the villi gives them a position of great importance in relation to the assimilation of food, a process that may be naturally looked for to immediately follow absorption. At a period of fasting the amount of sugar in the portal blood practically stands in accord with that in the blood of the general circulation. After the copious ingestion of carbohydrate food the amount of sugar in the portal blood rises, and I have known it reach as high as between 4 and 5 per 1000. The circumstances are such as to lead to sugar being absorbed in too large a quantity to be fully assimilated or disposed of in the villi, and the portion that has failed to be assimilated reaches the portal blood and gives to it a fluctuating condition dependent upon the food. If there were no further provision existing for the purpose of assimilating this sugar and checking its passage into the general circulation we should be thrown into a more or less pronounced glycosuric state after every meal in precisely the same way as, in fact, occurs with the subject of alimentary diabetes. The liver, however, intervenes between the portal vein and the general circulation, and here a supplementary action is performed which, if complete in checking the flow of sugar onwards, protects the contents of the general circulation, and hence the urine, from being influenced in relation to sugar by the food ingested. If the supplementary action is incomplete the blood and urine become influenced, and in proportion to the incompleteness so is the extent of glycosuria. The entry of sugar into the general circulation constitutes the unnatural and not the natural occurrence. In order that we may be kept free from glycosuria sugar must be kept out of and not thrown into the general circulation.

(To be concluded.)

MEASLES AT SWANSEA.—Three of the schools of the Swansea School Board have been temporarily closed owing to an outbreak of measles in several districts of the borough.

ON SOME POINTS IN CONNEXION WITH CARCINOMA UTERI.[1]

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THE points I have specially tried to investigate are (1) the conditions under which carcinoma uteri arises; (2) the course and duration of the disease where no radical operation has been performed; and (3) the results of vaginal hysterectomy. I have consulted notes of cases in the Middlesex Hospital cancer wards, the Royal Free Hospital, the Chelsea Hospital for Women, and St. George's Hospital, thanks to the kindness of Dr. Duncan, Dr. Hayes, and Dr. Dakin. Mrs. Scharlieb and Mrs. Boyd have allowed me to make full use of their cases of operation at the New Hospital for Women, for which I tender many thanks. The mass of material is considerable, but when we have to depend largely on notes taken by others, especially by students, it is often difficult to obtain systematic information. I have collected notes of 143 cases of inoperable carcinoma uteri from the cancer wards of the Middlesex Hospital, and 75 cases from other hospitals, and have endeavoured to investigate the subject on somewhat the same lines as Oscar Müller, of Breslau,[2] and Albrecht Tanner, of Berlin,[3] in the papers they published dealing with all the cases of carcinoma uteri, operable and inoperable, seen at their respective clinics during a period of some years.

Influence of age.—First, as regards the age at which the disease is likely to commence. In Table I. are shown the ages at which the symptoms appeared in the cases I have collected and in those of the German writers above mentioned; the latter are given for comparison.

TABLE I.

Ages.	Cancer wards, Middlesex Hospital.		Cases from other hospitals.		Tanner (Breslau).		Müller (Berlin).	
	Cases	Per cent.	Cases.	Per cent.	Cases.	Per cent.	Cases.	Per cent.
20 to 25 years ...	1	0·7	—	—	2	0·4	5	0·8
25 to 30 ,, ...	4	2·8	2	2·6	13	2·5	19	3·3
30 to 35 ,, ...	9	6·3	9	12·0	34	6·5	66	11·4
35 to 40 ,, ...	27	18·2	10	13·3	72	13·7	110	18·3
40 to 45 ,, ...	30	21·0	15	2·0	118	22·5	111	18·5
45 to 50 ,, ...	26	18·1	13	17·3	114	21·7	116	21·0
50 to 55 ,, ...	13	9·1	11	14·3	74	14·0	71	13·3
55 to 60 ,, ...	14	9·8	10	13·6	58	11·0	41	7·0
60 to 65 ,, ...	13	9·1	3	4·0	28	5·3	22	3·8
65 to 70 ,, ...	4	2·8	2	2·6	10	2·0	11	1·8
70 to 75 ,, ...	3	2·1	—	—	5	1·0	5	0·8
75 to 80 ,, ...	—	—	—	—	1	0·2	—	—
Totals	144	—	75	—	529	—	577	—

The figures from the different sources in the foregoing table correspond very fairly with one another. In the first three groups the maximum number of cases occur between the ages of forty and forty-five years, but both the preceding and the following five years show very large numbers also. In Müller's cases the maximum is between the ages of forty-five and fifty years, and the fifteen years between the ages of forty and fifty-five years show slightly more cases than does the period between thirty-five and fifty years—the fifteen years containing the maximum in the first three groups. Before the age of thirty years all agree in showing very few cases; after thirty-five years of age there is a rapid increase. After fifty-five years all show diminution, but the descent is not so rapid as the ascent, the ages from sixty-five to seventy years being equal to those from

[1] A paper read at the Registered Medical Women's Association on July 6th, 1897.
[2] Zur Lehre von Carcinoma Uteri, Charité Annalen, vol. xviii.
[3] Prognose und Behandlung des Gebärmutterkrebses, Archiv für Gynäkologie, 1890, p. 20.

twenty-five to thirty years. That this does not represent equal liability to the disease is evident from the fact that there are far fewer people alive at sixty-five than at twenty-five years of age and therefore the diminution in liability to carcinoma as age increases is far less than would appear from the figures in the table. Between the ages of twenty and twenty-five years I found only one case. The patient was a nurse, a single woman aged twenty-two years. There was a history of six weeks' hæmorrhage, but no other symptom. When seen a "warty, tuberous condition of the cervix" was found widely infiltrating the vagina and quite inoperable. She died only two months later, apparently from uræmia. The condition described sounds more like carcinoma than sarcoma, but the case is certainly an unusual one both as regards the age of the patient and its duration.

Duration of the disease.—The next table (Table II) shows the duration of the disease according to the ages of the patients. The last four columns in the table represent the same cases arranged in two groups—viz., those under and those over forty-five years of age. This table shows that the commonest time for the disease to last is from one to two years, about half as many cases lasting under one year and from two to three years respectively. A considerable number lasted from three to four years; above four years very few. It will be seen that to some extent the younger cases are the more rapid—i.e., there is a larger percentage of short cases among the younger and of long cases among the older patients, but this is not very marked. Two out of the six cases where the disease lasted six years were under thirty-five and forty years respectively. In these tables I have only taken those cases with a definite date for the onset of symptoms. In nearly all the cases this was hæmorrhage. Cases of old uterine disease with history of bleeding for many years have not been included. I have included one case where the symptoms lasted for nine years. Here there was history of bloody leucorrhœa beginning at the age of fifty-five years with apparently no previous uterine trouble, but there was no distinct evidence that the carcinoma existed during all these years. Of course, in most of these cases there is no definite evidence that the onset of the symptoms corresponded with the beginning of the carcinoma; it is quite possible that in many cases the disease may have existed considerably longer. I have attempted to trace the subsequent history of the patients with inoperable carcinoma uteri who had been in the New Hospital for Women—most of them for curetting. Of these I have only been able to obtain tidings of seventeen. Thirteen out of the seventeen are dead—eight died within one year, three between one and two years, and two nearly three years after leaving the hospital. Four are still living at periods of nine months, twenty-one months, two years, and four and a half years since they were discharged. The first of these is fairly comfortable, the next two are in the last stage of the disease and very ill. The remaining case is an interesting one. The patient was thirty-seven years of age when the symptoms began; when admitted she had had bloody leucorrhœa eight months, the uterus was fixed, and there was considerable infiltration of the left parametrium. Carcinoma uteri was diagnosed, but the case was considered too advanced for operation. This was four and a half years ago; since then she has had comparatively little trouble and has been able to do her housework as usual, she has no pain except at her menstrual periods, which she says continue regular, but are profuse. Constipation is her chief trouble. Per vaginam there is a large infiltrating mass quite fixed and apparently filling the whole pelvis. It is surprising that this should have caused so little inconvenience. The duration of the disease in this case is the more remarkable as occurring in a comparatively young woman. Dr. Sinclair records a case the converse of this—i.e., a rapid case in a patient over sixty years of age.[1] When seen by him there was a distinct ulcerating nodule on the cervix; six weeks before this another practitioner had found a doubtful nodule. Vaginal hysterectomy was recommended, but the patient took six weeks to make up her mind. When she returned after this interval the vagina was filled by an ulcerating mass and the case was much too advanced for operation. It is evident from these and other cases that the duration of carcinoma uteri is extremely variable. Unfortunately there are not enough records of the pathology in the notes I have collected to enable us to examine the relationship between this and the duration of the cases.

TABLE II.—*Showing the Duration of the Disease in the Cases from the Cancer Wards of the Middlesex Hospital and in those from other Hospitals.*

Duration.	Age 20 to 25 years.	25 to 30 years.	30 to 35 years.	35 to 40 years.	40 to 45 years.	45 to 50 years.	50 to 55 years.	55 to 60 years.	60 to 65 years.	65 to 70 years.	70 to 75 years.	Total.	Under 45 years.	Percentage.	Over 45 years.	Percentage.
Under 1 year	1	—	3	1	7	2	1	3	1	—	—	19	12	25·0	7	13·0
1 to 2 years	—	1	3	8	6	8	3	2	4	4	1	40	18	37·0	22	40·0
2 to 3 ,, ...	—	—	—	6	5	3	1	3	3	—	—	21	11	20·0	10	18·0
3 to 4 ,, ...	—	—	—	3	3	—	4	2	1	—	3	16	6	12·0	10	18·0
4 to 5 ,, ...	—	—	—	—	—	—	1	—	1	—	—	2	0	—	2	3·5
5 to 6 ,, ...	—	—	1	1	—	2	—	—	1	1	—	6	2	1·0	4	7·0
6 to 7 ,, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7 to 8 ,, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8 to 9 ,, ...	—	—	—	—	—	—	—	1	—	—	—	1	—	1·0	—	0·2

TABLE III.—*Age at which Symptoms of Carcinoma Uteri occurred in Nulliparæ.*

Age.	Single.	Married.	Percentage.
20 to 25 years	1	—	6 (nearly)
25 to 30 ,, ...	—	2	12
30 to 40 ,, ...	—	3	18
40 to 50 ,, ...	4	1	30
50 to 60 ,, ...	1	3	24
Over 60 ,, ...	2	—	12

Influence of previous health.—Another question which suggests itself is, Are there any points worth remarking in the previous history of the patient? As regards the general health there appears to be nothing special. There is history of old uterine disease in twenty-two cases—i.e., 10 per cent. In many of these the history is vague, mostly of leucorrhœa of many years' standing; four were previously treated for endometritis and "erosion"; two had had polypi removed fourteen and sixteen years previously, one, a woman of sixty-three years of age, had worn a pessary for prolapse for eight years. Considering the prevalence of uterine trouble, such as chronic leucorrhœa, especially among the class from which these patients are drawn, this number does not seem large—scarcely enough to suggest any causal relation to the subsequent carcinoma. Association with pregnancy was found in nine cases out of the 143 from the cancer wards of the Middlesex Hospital. In four cases the symptoms appeared during pregnancy in patients of the ages of thirty-five, thirty-seven, thirty-eight, and thirty-nine years. In three of these cases labour was difficult but terminated naturally, in the fourth Cæsarean section was performed, and the patient died after the operation. In the other three

[1] A System of Medicine, edited by Dr. T. Clifford Allbutt; the volume on Gynæcology, edited by Dr. W. S. Playfair.

cases the duration of the disease was for periods of eighteen months, two years, and three and a half years respectively. In three cases, one forty and two forty-one years of age, the symptoms came on immediately after confinement. One patient died three years later; the end of the others is not recorded. In two cases the symptoms dated from a miscarriage. One of these, a patient aged twenty-six years, when seen six months later was found to have too advanced disease for operation. The other, aged forty-three years, had had bleeding for two years when first seen. This gives a percentage of rather under seven of cases associated with pregnancy. Müller finds a much larger number among his cases—viz., forty-six, or 14 per cent. Of these nineteen were over thirty-eight years of age, which he mentions as possibly supporting Cohnheim's theory that early carcinoma uteri is favourable to conception. He considers that the disease is likely to make rapid progress during the lying-in period, and instances a striking case as evidence of this. The cases I have cited do not show any marked rapidity of the disease, on the contrary many of them are of more than average duration, and those patients who left the hospital and were lost sight of probably lived a considerable time, as none of them appeared to be in the last stage of the disease.

Influence of fertility.—It is often stated that carcinoma uteri is prone to attack those who have borne a large number of children. Most of the patients who developed carcinoma in connexion with pregnancy had had fairly large families—i.e., from six to twelve children; in one case there had been a previous confinement within ten months. As regards fertility in the cases in general, in 141 instances where particulars on this head are given I find 133 married patients with history of 622 children and 135 abortions, giving an average of 5·7 pregnancies to each. Eight single patients, all nulliparæ, are left out of account. Among these cases are 41 with but one or two pregnancies each; but, on the other hand, there are several with a very large number; 19 patients had had twelve or more, 4 of these from fifteen to nineteen. It is noticeable that some of the largest families were found among the patients who were attacked by cancer when over sixty years of age, the average number of pregnancies among those patients being 7·6. Müller obtained an average of 5·37 pregnancies in 523 cases, which is almost the same as that given above. This, he points out, is by no means a very high figure. In Prussia the general average is said to be 4·6 children; what the average is in England I do not know. Sinclair in 100 cases of carcinoma uteri examined in Manchester found a somewhat higher average—viz., 5·8 children per head. Among these cases there were no barren women. In the 141 cases I have referred to there were 17 nulliparæ—i.e., 13 per cent. Eight of these were single and nine married. The percentage of single women is just under 6, which is low, as, according to the Registrar-General's return, about 16 per cent. of women over thirty-five years of age are single. Müller found only 28 nulliparæ, or only 5·3 per cent.; he does not say how many of these were single. Compared with the statistics of carcinoma of the breast these numbers are very low. Bryant found in 600 cases 20 per cent. single women, and 28 per cent. of the married women were nulliparæ.[5] The ages at which the nulliparæ were attacked show no marked deviation from the general tables; the maximum was between forty and fifty years; two of the single women were over sixty years; and one, the case already referred to, was under twenty-five years. These statistics do not show any special preponderance of nulliparæ in the post-climacteric cases, but of course the number is too small to be of much value. Unfortunately, evidence as to how many, if any, cases of carcinoma corporis there were among them is wanting.

Influence of the menopause.—Müller divides his cases into three classes—those attacked before, those attacked during, and those attacked after the menopause. He draws attention to the fact that his tables show a decidedly late average for the occurrence of the menopause, especially when taking into account the class from which the patients were drawn, for he considers that the menopause occurs earlier in the poor than in the more prosperous classes. In 60 per cent. of Müller's cases the menopause did not take place till after forty-eight, and in 35 per cent. not till after fifty. I find a note of the occurrence of the menopause in 54 cases, as in Table IV.:—

[5] Erichsen's Science and Art of Surgery, vol. ii., p. 800.

TABLE IV.—*Age at which the Menopause occurred.*

In 54 patients with carcinoma uteri.		In 200 other out-patients.	
Age.	Number of patients.	Age.	Number of patients.
Under 30 years	1	Under 30 years	—
30 - 40 ,,	2	30 - 40 ,,	10
40 - 45 ,,	8	40 - 45 ,,	45
45 - 50 ,,	24	45 - 50 ,,	81
50 years and over	19	50 years and over	70
Average a little under 48.		Average a little over 48.	

The average age at which the menopause occurs is given variously by different writers, some putting it at forty-five years, others a few years later. By way of investigating this point I noted the date of the menopause in 200 out-patients taken at random, excluding those with uterine diseases as much as possible. The result of this is shown in the second part of Table IV. The two parts of the table correspond almost exactly. In both the average age is forty-eight years; in the first there were 35 per cent. and in the second 34 per cent. of cases of menopause at the age of fifty years and over. In these cases therefore there is no evidence that the menopause tended to occur later than usual. Müller notes among his cases two of exceptionally late menopause—viz., over sixty years, one case certain and the other rather doubtful. In the cancer wards of the Middlesex Hospital there was one case of menopause at fifty-eight years apparently, and another where the patient was positive that the catamenia did not cease till the age of seventy years, the symptoms of carcinoma appearing four years later. There are several questions which arise in connexion with the menopause. First, what length of time elapsed between this and the onset of the cancer, and is there evidence of anything approaching a constant relation between the two? In the fifty-four cases under discussion the interval was as follows: under one year, 3 cases; from one to two years, 6; from two to five years, 14; from five to ten years, 12; from ten to twenty years, 14; and over twenty years, 5 cases. It may be asked further, Are the cases of late carcinoma also cases of late menopause? Taking the thirteen cases of cancer arising in patients over sixty years of age there were six cases of menopause before and seven after the age of forty-eight years, which corresponds with the proportion in the general tables. Conversely, taking the cases of menopause after fifty years of age, the interval nearly corresponds to the general average, but in no case is it under one year and in only two under five years. In the cases of early menopause—i.e., before the age of forty-one years—the interval was as follows. In two cases of the menopause occurring at thirty-one years of age the intervals were one year and thirteen years; in one at thirty-two years of age the interval was eleven years; at thirty-nine years of age it was a few months; in two cases at forty years it was twenty-four and twenty-six years respectively. In so far as any conclusions may be drawn from such a small number of cases it would appear that both in cases of early and late menopause there is a considerable and very variable interval; this is greater on the average in the early cases, implying that the age has more to do with the etiology of the disease than the menopause, and pointing to the conclusion that when once the menopause is established it ceases to be a predisposing cause—if, indeed, it ever is one. As regards the cases where carcinoma arises during the menopause it seems to me very difficult to decide which they are unless the patient has been examined before the disease appeared as the irregular hæmorrhage may be due to either cause.

Influence of heredity.—The question of the influence of heredity upon the occurrence of carcinoma is one that deserves brief mention and is a point which appears to have been carefully investigated in the cases in the Middlesex Hospital. Among 150 cases there are 28 with some family history of cancer. In 2 cases three members of the family had been affected, in 6 two members, and in the remainder only one member. There were 16 cases of carcinoma uteri in the family history of 13 patients. In 5 of these the mother was affected, in 6 sisters, in 2 a grandmother, in 3 aunts. The double histories were mother and sister, two sisters, and two aunts. There were 12 cases with a family history of

carcinoma in other parts of the body; breast: 6 cases, two sisters, one grandmother, and three aunts; liver: 2 cases, father and sister; tongue: 1 case, an uncle; throat: 1 case, a father; nose: 1 case, a grandfather; and stomach: 1 case, relationship unknown. In 10 cases the locality of the disease is not given—it occurred in 2 mothers, a grandmother, a brother, a sister, an uncle, and 4 aunts. The preponderance of females to males in this series is very large, being as 31 to 7. The number of cases of carcinoma uteri is also remarkable and suggests more than accidental coincidence, but the total number of cases with family history of cancer is not large, being under 19 per cent. It is worth noting that in all these patients the existence of a family history of phthisis has also been inquired into and has been found in 27 per cent.

The value of hysterectomy.—With regard to this point it is still necessary to go to the Continent for statistics of any magnitude. The number of cases in many London hospitals where the operation has been performed sufficiently long ago to be of value as regards ultimate result is comparatively small, and many patients seem to have been lost sight of. In published records I have found no larger series than twenty cases, and in many of them several were only recent operations when recorded. On the other hand, as is well known, many French and German surgeons have published series of cases extending over many years where nearly all the patients have been kept in view after their operation. Krukenberg[6] has published 235 cases, Münchmeyer 80,[7] Richelot 68,[8] and many others equally large numbers. At the New Hospital for Women there have been 18 cases of vaginal hysterectomy for malignant disease of the uterus up to March, 1896; these were mostly cases under the care of Mrs. Scharlieb. In 1893 there were 5 cases; 2 died after the operation, 2 remain cured (a case of carcinoma cervicis involving both lips and a case of carcinoma corporis), and 1 recurred (a case of carcinoma cervicis with slight infiltration of the vaginal wall). In 1894 there were 5 cases; of these 2 were for sarcoma, 1 died (an advanced case with considerable infiltration), 2 remain cured (a case of spindle-celled sarcoma and a case of early epithelioma cervicis), and 2 recurred (a case of sarcoma and one of epithelioma with slight infiltration of the vaginal wall). In 1895 and 1896 there were 8 cases; one was sarcoma, 5 remained cured (carcinoma corporis; nodular growth on the cervix with another nodule at the internal os; squamous epithelioma with moderately deep ulceration; carcinoma of the cervical canal; and early carcinoma of the cervix); and 2 recurred (a case of sarcoma and one of advanced squamous epithelioma). In this series, therefore, there are three deaths, five recurrences, and ten cures up to the present date. In the cases of recurrence the disease reappeared in all the cases within a year, and in all but one within seven months. Both the patients in the cases of sarcoma were dead within a year; the three patients suffering from carcinoma lived one and a half, two, and three years respectively. In 1894 Dr. Gow[9] published a series of 8 cases of vaginal hysterectomy with no death, and he has kindly inquired into their subsequent history at my request. Of these 8 two have been lost sight of; they were probably cases of recurrence. Three cases recurred (the first immediately—a case of lympho-sarcoma who died in five months; the other two were cases of advanced carcinoma cervicis recurring at a few weeks and eighteen months respectively; one is a case of probable recurrence (this was a case of carcinoma affecting the whole canal: the patient remained quite well for three and a half years; then a suspicious nodule was found over the sacrum, which showed a tendency to grow). Two remain cured (one certainly a case of carcinoma of the whole canal; the other a case of carcinoma corporis, was well when last heard of. Both were operated on four years ago). In this series nearly all the cases are of columnar celled carcinoma; in the former there were a considerable number of squamous-celled epithelioma—viz., two among the cures and two among the recurrences. The case of sarcoma showed the same rapid course as in two of Mrs. Scharlieb's patients.

[6] Zeitschrift für Geburtshülfe und Gynäkologie, vol. xxiii., p. 94.
[7] Ueber die weite Verwerthung und die Endresultate der totalen xtirpation des Uterus an der Königlichen Frauen-Klinik zu Dresden. rchiv für Gynäkologie, 1889, p. 424.
[8] L'Hystérotomie Vaginale (Paris, 1894). Derniers Résultats de 'Hysterectomie Vaginale. Union Médicale, 1895, p. 541.
[9] The Practitioner, 1894, p. 161.

With regard to the degree of malignancy of the different varieties of carcinoma of the cervix Krukenberg gives the following returns. Of cases of early carcinoma of the cervical canal, 66 per cent. cures; superficial squamous epithelioma of the portio vaginalis, 63 per cent. cures; small cauliflower growth from portio vaginalis, 57 per cent. cures; advanced carcinoma of the cervical mucous membrane, 41 per cent. cures; carcinoma of the cervical wall (? glandular), 40 per cent. cures; large cauliflower growth from portio vaginalis, 37 per cent. cures; and deeply ulcerating squamous epithelioma, 20 per cent. cures. This is certainly a high percentage of cures. The proportion of cures to recurrences recorded by various surgeons is as follows: Fritsch, 60 cases, 47 per cent. cures; Leopold, 80 cases, 56 per cent.; Mangiagalli, 83 cases—advanced carcinoma 20 per cent., and early carcinoma 50 per cent.; Krukenberg, 197 cases, 41 per cent.; Hofmeier, 60 per cent.; Schauta, 47 per cent.; Schroeder, 20 per cent.; Olshausen, 41 per cent.; and Richelot, 40 per cent. The number of cases from which these latter percentages are drawn is not given.

In these statistics only cases operated on over a year previously are included; cases of death from operation are left out of account. The general average amounts to 41 per cent. cures. The percentage of cures must vary considerably, as is shown in these figures, according to what different operators consider the limits of operation. Some of the surgeons mentioned above regard fixation of the uterus as a contra-indication in all cases; a good many operate in spite of some degree of fixation, and this on two grounds: some because they maintain that the fixation may be due to inflammatory thickening, and that it is impossible to diagnose this with certainty before operation, and others because even if the disease has spread beyond the uterus they still aim at removing it entirely. But there are few among the names cited who operate under the latter condition, at least if it is known beforehand, and none, I believe, who favour the wider operations of Kraske, Mackenrodt, and Zuckerkandl.

Table V. shows the date at which recurrence occurred in 189 cases gathered from different sources. It will be seen that 140 cases recurred during the first year—that is, 74 per cent. nearly; during the second year 25 cases, or 13 per cent.; during the next three years the number is small, but remains nearly equal, and even between five and six years after operation there are three cases of recurrence. It is evident, therefore, that when the first year has passed the chance of recurrence very much diminishes, but it is impossible to say when it disappears, if, indeed, it ever does so. These tables include many cases which had only been operated on one or two years before publication, so it is evident that the true percentage of late recurrences is not given. The cases of late recurrence are certainly very curious and are not a pleasant fact as regards the prognosis after vaginal hysterectomy. Among Dr. Gow's cases there

TABLE V.—*Showing Date of Recurrences after Vaginal Hysterectomy.*

Cases cited by	Total.	Under 6 months.	½ to 1 year.	1 to 2 years.	2 to 3 years.	3 to 4 years.	4 to 5 years.	5 to 6 years.
Duhrssen	18	9	4	1	—	2	—	2
	23	17	2	—	—	—	4	—
Richelot	11	3	4	2	1	—	—	1
Terrier and Hallmann	14	7	2	2	1	2	—	—
Tanner	40	16	11	10	1	1	1	—
Krukenberg ...	83	65		10	5	2	1	—
Totals	189	140		25	8	7	6	3

TABLE VI.—*Date of Recurrence in 57 Cases of Supra-vaginal Amputation.*

Total.	Under.	1 year.	1 to 2 years.	2 to 3 years.	3 to 4 years.	4 to 5 years.	5 to 6 years.
57	—	29	10	5	5	3	—

is probably one—the patient who remained well for nearly four years and then developed a nodule in the hollow of the sacrum. Among a series of four cases which Dr. Cullingworth published in 1890, and in all of which the subsequent history has been followed,[10] there is one that is interesting from this point of view. The patient was forty-seven years of age; vaginal hysterectomy was performed for columnar-celled carcinoma of the cervix. She had perfect health for nearly two years and then developed symptoms of intestinal obstruction. Colotomy was performed, but the patient died two weeks later. Post mortem two inches of small intestine were found embedded in the scar, and one gland was found to be infiltrated with carcinoma. This case is interesting for two reasons: first, as showing a condition which would have doubtless made it ultimately one of recurrence; and, secondly, as illustrating a possible danger as an after result of vaginal hysterectomy, which is sometimes overlooked.

It will be seen that in the preceding paper an attempt has been made to bring forward certain facts concerning carcinoma uteri. Some of the points investigated have given negative results, in others the data are scarcely large enough to justify any definite conclusion, but each year will produce better material and more evidence as to the value of hysterectomy in malignant disease, and I hope to continue the study of this interesting subject.

Welbeck-street, W.

REMARKS AND SUGGESTIONS WITH REGARD TO DISINFECTION OF CLOTHES BY HEAT.

BY A. F. MESSITER, M.R.C.S. ENG., L.R.C.P. LOND.,
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PROBABLY anyone connected with public health work will readily admit that the sanitary control over an infectious disease such as scarlet fever in rural and the smaller urban districts is in the highest degree unsatisfactory. There are obvious difficulties in the way of compulsory removal under a magistrate's order to the cottage isolation hospital probably several miles distant, and in a labourer's cottage or small farmhouse isolation during desquamation is never carried out. When desquamation has ceased the most obvious factors in the dissemination of the disease are (1) the house; (2) the person; and (3) the patient's clothes.

To artificially disinfect a house may be theoretically possible, but from a working point of view the thing is an impossibility. Complete personal disinfection is probably quite attainable, but seldom or never attempted, outside the walls of a well-organised fever hospital, and it is a matter worthy of consideration whether a sanitary authority ought to allow a child to resume school attendance unless the naso-pharynx and auditory meatus have been sprayed or irrigated with some antiseptic solution. Complete sterilisation of clothes can be made an absolute certainty, but we are usually content to advise people to boil and wash infected clothes and our advice is hardly ever honestly carried out. If the disease spreads we tell our district councils that they must expect dissemination in the absence of a portable steam disinfector, the price of which is generally quite sufficient to check any budding enthusiasm on their part. We attempt to eliminate factor No. 1 for the sake of appearances, I suppose, but Nos. 2 and 3 we leave entirely to chance.

My object in this paper is to point out a cheap and easily attainable method of disinfecting clothes by steam, and before doing so I venture to think that a few observations on dry and moist heat will not be out of place. The following facts are probably already well known to the majority of the profession, but have not, I believe, been digested to the extent of their general application to every-day efficient use.

Dry heat.—"For the complete destruction of organisms in the absence of spores exposure to dry heat at a temperature of 120° C. for at least an hour and a half is necessary. Koch found that spores of anthrax required for their destruction dry heat at 140° C. maintained for three hours" (Pearmain and Moor). Ransom's dry heat apparatus is usually worked at 124° C. for two, four, or eight hours; any higher temperature than this gives rise to the danger of scorching cotton and woollen goods. Dr. Whitelegge experimenting with this temperature found that a thermometer placed beneath only two layers of blankets after eight hours registered 110° C., which is 10° C. below what is necessary to destroy organisms without spores and 30° C. below what Koch found necessary to destroy spores of anthrax. Dry heat acts by conduction and therefore makes its way through an object very slowly; consequently, the temperature of the inner portions of a woollen fabric may be comparatively low, while the outer portions are scorching. Stoves and hot ovens are therefore not only injurious but useless for the purpose of disinfecting clothes.

Moist heat.—"All pathogenic organisms as yet isolated are killed, when free from spores, by moist heat at 60° C." "Spores of most of the pathogenic bacteria are quickly killed by a very short exposure to moist heat at 100° C." (Pearmain and Moor). Under the ordinary pressure of the atmosphere water boils at 100° C., and the steam given off is at the same temperature. On meeting with an object a fraction of a degree cooler than itself this saturated steam is condensed, and the water which is formed remains at 100° C. so long as there is any uncondensed steam present. If water is boiled under pressure—e.g., of 10 lb.—boiling does not take place until the temperature has reached 115° C. The steam given off is then at 115° C. and is saturated at that temperature, and condenses when it comes into contact with an object a fraction of a degree cooler than itself, the water of condensation remaining at 115° C. "Saturated steam, when it penetrates into the interstices of a body at a lower temperature than itself, such as a blanket or coat, undergoes condensation into water, then occupying only a very small fraction of its former volume. To fill the vacuum thus formed more steam presses forward in its turn, yielding up its latent heat, and becomes condensed, and so on until the whole mass is penetrated" (Parsons). Condensation, therefore, of steam at 100° C. is the essential point in the disinfection of clothes by this method. If, on the other hand, saturated steam—e.g., at 100° C.—is conducted into a chamber heated up to a higher temperature—e.g., 115° C.—it rapidly runs up to that temperature, that is to say, it becomes superheated, and before condensation can occur it must meet with an object a fraction of a degree below the temperature of the boiling water from which it originated, in this case 100° C. Superheated steam is therefore practically the same as dry hot air at the same temperature; and dry heat, we have already seen, is not only useless but injurious.

The inefficiency of superheated steam depends upon the following fact. If ordinary steam at 100° C. is admitted into a chamber (containing clothes) heated up to 115° C. no condensation occurs on the outer layers of these clothes, for the simple reason that the outer layers have become heated above 100° C. Therefore, no germicidal action takes place. When, however, the steam penetrates further into the fabric it meets with a temperature below 100° C., and then condenses. Consequently the inside is sterilised while the outside is not. Esmarch was the first to clearly demonstrate this. In his experiments with superheated steam he found that anthrax spores were destroyed in one minute and a half inside the folds of a blanket where the temperature was 100° C., while those on the outside of the same blanket were not destroyed in twenty-two minutes, although the temperature had reached 140° C. Dr. Parsons found that anthrax spores were destroyed by exposure to steam at 100° C. We may therefore conclude that the greater uniformity of temperature of steam under pressure in all parts of the disinfecting chamber causing increased rapidity of penetration, and not the fact of the temperature being over 100° C., must be the reason for the greater efficiency of the expensive high pressure apparatus for purely disinfecting purposes; at the same time the higher temperature in the fabric operated on would cause more rapid re-evaporation of the condensed steam on the removal of the material from the chamber, and hence greater rapidity in drying.

Koch concluded from the result of his experiments that exposure to a current of steam at 100° C. was the most satisfactory method of disinfection, and Dr. Parsons, in his report to the Local Government Board on "Disinfection by Heat," after giving in detail the results of his experiments on sterilisation of anthrax spores and tuberculous pus by steam at 100° C. states that it may be considered to be established that

[10] Transactions of the Obstetrical Society, 1893, p. 25.

the complete penetration of an object by steam heat for more than five minutes is sufficient for its thorough disinfection.

The apparatus which I have designed and which has been admirably constructed by Messrs. Bailey Brothers, of Epworth and Bawtry, will be easily understood by a glance at the accompanying illustration. Circular in shape and

made of galvanised iron it measures 4 ft. in height, with a diameter of 21 in. A portion of the height (2 ft. 10 in.) is taken up by the chamber and the lid, which are separated from the pedestal immediately below the level of the tap. Six inches above the tap will be seen a black line which corresponds with a removeable perforated false bottom in the interior. Above the false bottom is the disinfecting chamber; the space below is the boiler. The pedestal is 14 in. high. The chamber and the lid are covered with felt, and the lid is perforated at the top to allow of the slinging of a thermometer and the escape of steam, and by means of a simple contrivance the junction of the lid and chamber is made almost completely steam-tight. The heating power within the circle of the pedestal is derived from an "intensive oil furnace," which throws out an immense heat by means of volatilised petroleum. This heating arrangement (for the suggestion of which I have to thank Mr. Alfred Bailey) does away with all difficulty connected with the construction of a light, portable disinfecting apparatus. The whole thing, lamp and all, weighs only 54 lb. and costs less than a penny to work for one hour; and even when it is full of blankets and clothes the temperature in the middle of them reaches 100° C. in half an hour from the time of the water in the boiler being cold. I find that an inch and a half of water in the boiler is more than enough for one disinfection.

When the clothes are removed they ought to be immediately shaken in the open air and then freely exposed on a clothes line for half an hour, at the end of which time they will be found to be practically dry. This apparatus, which has been adopted by my sanitary authority, can be carried about in a trap with perfect ease, and can of course be enlarged to any extent on the same model with a corresponding increase of heating power.

Epworth, Doncaster.

BUILTH COTTAGE HOSPITAL.—The new cottage hospital for Builth was opened on Nov. 3rd. The chairman of the building committee stated that the late Mr. John Davies, of Wyeside, had bequeathed £6000 to build and endow the institution, and added that the committee had expended £2600 upon the hospital, leaving an endowment of over £3000, but as this was insufficient they appealed for further funds from the inhabitants.

ON POOR-LAW MEDICAL ECONOMICS.[1]

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THE title of my paper will, I hope, be justified when I have read the paper. It was suggested that I should write on Poor-law Medical Administraiton; but the medical officer is only an adviser, and I have always steered clear of attempting to usurp the position which belongs to you. You will therefore understand that I confine myself still to the same *rôle*, that I simply throw out suggestions or ideas (or shall I say ideals?) on Poor-law medical requirements, while dwelling strongly on general principles which strike me, as a medical man, as applicable to the great problems you have to deal with. I draw, too, on my experience—a ripe one, extending to nearly thirty years in the service.

You all recognise the grave responsibilities and serious duties which fall upon you as guardians in the matter of medical relief—duties and responsibilities which are increasing rather than diminishing. You are discharging in this country duties which in my travels in Germany, France, Austria, and Russia I find are undertaken by the municipalities or corporations. You have medical charge of infants and children, you have hospitals for the sick poor suffering from acute diseases, whilst you also make provision for the incurable, the infirm, the dying, and the aged. And you have also lying-in wards, so that your medical field is all-embracing. You have a large staff of medical officers, nurses, as well as other necessary officials, and your expenses are great, so that economics are worth consideration. It is an old electioneering cry, "Economy with efficiency." Nothing can be truer when applied even to medical relief. For the effective relief of sickness it appears to me that the only true economy is to provide adequate medical aid. If you accept this principle, as it has been accepted by the Bradford guardians, by the Leeds guardians, by the Halifax guardians, my task will be simpler. It is because you believe that the sick poor for whom you are responsible are entitled to fresh air, good baths, skilled nursing, sufficient and unfettered medical attendance—just as the sick poor have in your noble charities depending on voluntary aid—that you have erected hospitals, built nursing homes, increased your hospital medical staff, and generally increased your first expenditure. Effectual medical aid for grave diseases can only be given under suitable conditions.

How does my paper apply? I will come to the heart of the question. Is it economical to supply trained nurses, give good food, increase the staff of medical men, and generally carry on your hospitals on the most improved principles? I will try to answer this, briefly dwelling on a few principles of economy in relation to labour and the working classes.

We have in England, as they have in other countries, a large number called the proletariat—viz., those who give to the State only children and their work. Their economic conditions are such that, provided work be found for them, they are able to live, saving something; but if sickness comes on, bringing with it loss of work and the expenses which sickness entails, this class is at once plunged into poverty. Disease does come, owing to the environment and nature of the work. The unskilled labourer who works in the open air is liable to pleurisy, pneumonia, bronchitis, rheumatism, heart-strain, and many other diseases, whilst he is also liable to injury and to ulcers of the legs from collision with fragments of stone, wood, &c. Now, neglect in many cases of sickness will convert a simple injury into a serious one, and acute disease into a chronic one, with a corresponding drain upon any revenues supplied by private beneficence or public charity.

Early help in sickness is invaluable. This does not merely consist in sending a medical man who gives a bottle of medicine; we now understand that medical relief comprises more than this. I do not undervalue medicine, but other things than medicine are wanted in every case of sickness. What are the requirements? Pure air, pure surroundings, food to build up tissue, and, above all, intelligent application of medical principles which the nurse gives. The consequence is that

[1] A paper read at a Conference of Yorkshire Guardians at Leeds on Nov. 12th, 1897.

under such conditions disease is cut short, the period of absence from work is lessened, and the expense of maintenance is diminished. I know this from experience. I have had this economic subject under my eye for the last five years, and I have no hesitation in saying that, at the Halifax Union Hospital, the period of sickness or detention in hospital has been materially cut short in all those diseases which are curable, and in that special class of diseases from which the outdoor worker suffers. Time will not allow me to dwell too long on this point, but I give you three classes of cases:—1. *Ulcers of the legs:* You will find in all your union hospitals numbers of cases of ulcers of the legs which incapitate men from working. These men may remain in hospital for years, but under efficient nursing they are quickly cured. 2. *Pulmonary affections:* This class also gives us patients at all times of the year who are improved by treatment and discharged to work again. 3. *Cardiopaths:* A large number come annually under treatment who are much benefited.

The duration of stay in hospital will afford a valuable index as to the efficiency of your hospitals, and especially cases by our nurses. They are disappointed if the patient remains in a long time—it is a kind of personal reflection; and this is the spirit we desire to encourage in the interest of the patient and of the ratepayer.

Now another economical question comes in here. If you want your nurse to do her work efficiently it is necessary to provide for her suitable accommodation, good food, regular work but relieved from monotomy, and an annual holiday, for nursing work is exhausting. The food of the nurses may be economically managed, even though you do not adhere to a rigid dietary of "beef and mutton" varied by "mutton and beef."

I pass on to the question of hospital dieting. Your medical officer may very materially increase your annual expenditure, and hospital economics are well worth his consideration. Hospital dietaries vary; there is no uniformity; it may not be desirable. I think we do owe to the ratepayers and to our boards some regard to the expense. I believe we do recognise it. I submit to you two sets of diet tables—one from Halifax, the other from Cardiff:—

I.—DIET TABLE, ST. LUKE'S HOSPITAL, HALIFAX.

THOMAS M. DOLAN, M.D., *Medical Officer.*

Cost per week.	No. 1. 2*s.* 3*d.*	No. 2. 3*s.* 5½*d.*	No. 3. 1*s.* 11½*d.*	No. 4. 2*s* 5*d.*	No. 5. 2*s.* 8½*d.* 2*s.* 3½*d.* 2*s.* 2½*d.*	No. 6. 3*s.* 9½*d.*	Remarks.
Breakfast ...	6 oz. bread ½ oz. butter 1 pint coffee	6 oz. bread ½ oz. butter 1 pint milk	6 oz. bread ½ oz. butter 1 pint coffee	6 oz. bread ½ oz. butter 1 pint tea	6 oz. bread ½ oz. butter ½ pint cocoa	6 oz. bread 1 pint milk	—
Dinner	3 oz. meat 4 oz. rice 2 oz. bread 4 oz. potatoes	4 oz. cooked meat 8 oz. potatoes	8 oz. pudding ½ pint beef-tea 2 oz. bread	4 oz. cooked meat 8 oz. potatoes	8 oz. fish 4 oz. bread or 8 oz. potatoes 4 oz. chop or 2 eggs 8 oz. rice pudding	4 oz. bread 1 pint beef-tea	Green vegetables occasionally when in season.
Tea	6 oz. bread ½ oz. butter 1 pint coffee	6 oz. bread ½ oz. butter 1 pint milk	4 oz. bread ½ oz. butter 1 pint tea	6 oz. bread ½ oz. butter 1 pint tea	6 oz. bread ½ oz. butter ½ pint tea	6 oz. bread 1 pint milk	—

II.—DIET TABLE, CARDIFF UNION HOSPITAL.

ALFRED SHEEN, M.D., *Medical Officer.*

Cost per week.	No. 2. 2*s.* 9*d.*	No. 3. 2*s.* 7½*d.*	No. 4. 2*s.* 2*d.*	No. 5. 2*s.* 5*d.*	No. 6. *	No. 7. 2*s.*	Remarks.
Breakfast, 8 A.M.	6 oz. bread ½ oz. butter 1 pint tea	8 oz. bread ½ pint milk	—	4 oz. bread ½ oz. butter ½ pint cocoa	6 oz. bread ½ oz. butter 1 pint tea	6 oz bread 1 pint gruel ½ pint milk	—
Dinner, 12.30 P.M.	6 days. 4 oz. cooked meat 12 oz. potatoes Tuesday. ½ pint pea soup 4 oz. bread	2 oz. bread 1 pint beef-tea	Daily. 8 oz. bread 2½ pints milk	3 oz. cooked meat 8 oz. potatoes	8 oz. potatoes 6 oz. fish or 8 oz. potatoes 4 oz. chop 4 oz. bread or 2 eggs rice pudding	Same as house diet	—
Supper, 6 P.M.	6 oz. bread ½ oz. butter 1 pint tea	3 oz. bread 1 pint milk porridge	—	1 pint milk porridge 4 oz. bread	6 oz. bread ½ oz. butter 1 pint tea	—	—

* Cost with beef-tea, 3*s.* 9*d.*; with chop, 2*s.* 10*d.*; fish, 3*s.*; eggs, 2*s.* 8*d.*

if you confine your observations to acute diseases. The chronic cases are also much ameliorated by efficient nursing and liberal dietary, and a large number are sent out recruited for summer, spring, autumn; probably some come in again during the winter months. The trained nurse will not allow "loafers," of whom there are so many to be found in union hospitals. She is anxious to get her patients well, and nothing can equal the painstaking work done at St. Luke's Hospital, Halifax, in regard to acute disease and surgical

I have estimated, as you see, the cost of these dietaries per week, and one cannot go very far wrong with those dietaries which are made by me the basis of food-treatment.

The sick are placed on one of these scales, but this has to be supplemented and varied, and does not adequately represent all the cost per week. Herein comes waste. The patient is by right entitled to some form of diet, representing so much bread, so much meat, so many potatoes, so much milk, which is drawn each day whether the patient can eat

it or not. Here there is room for reform, but I am not prepared with a definite scheme. We have recognised it, and our superintendent has tried to grapple with it in one or two ways. Extra bread is given to those who can eat it between meals from what is left, but it is made more appetising by a little jam or marmalade. Meat left over is made into little hashes, whilst spare potatoes are always used in some little dish. You know from your experience of your union hospitals that the sick cannot eat each day the diet on their bed-cards, but you must have a diet scale, and this must be drawn daily, otherwise the patient will complain. This is one part of Poor-law economics upon which collective wisdom may throw a light.

The dietetic question presents another aspect in reference to the use of stimulants. My rule is the same that I employ with my private patients. I order stimulants, but not in a routine way. Beer is rarely given, never *pro formâ*. Other stimulants are given in medicinal doses, in *ounces*—so many tablespoonfuls so many times a day. I have fully considered this question in all its bearings. I admit that there are many who are brought to the union hospital through drink and improvidence therefrom, but they do not amount to 18 per cent. My statistics on this point agree with those of one of the greatest observers of the habits of the very poor—viz., Mr. Charles Booth—who, inquiring into the condition of 4000 of the submerged, found that of those reduced to poverty 4 per cent. were loafers, 14 per cent. were addicted to drink, 27 per cent. were poor through illness or had been the victims of misfortune, and 55 per cent. were thrown out of employment. So that this reason cannot be legitimately urged—viz., that for the benefit of the 18 per cent. we should penalise the 82 per cent. whose illness may be due to legitimate causes. I admit that the medical officer should exercise vigilance over the use of stimulants, but his hands should not be absolutely tied.

Before passing from the environment of the hospital, where nowadays the sick poor are humanely treated, where dietaries and nursing are ample and where medical aid is of the most effective kind, I might add one or two words on the humanising influence of the nurses, on the healthy influence they exercise on their patients—influences which have to my knowledge extended in many cases outside the hospital walls, leading to a return to better ways on the part of many men and women. We cannot measure in money weight human sympathy or the kindness or devotion to work on the part of the nurses, but yet I venture to say it has to be reckoned with as a great economic force. I also cannot but think that the personal visits of the guardian who disinterestedly and kindly interests himself in hospital work, visiting the wards, encouraging all by his words, lifting the fallen, reproving maybe, but sympathising with deserving objects of charity, must also have a high economic value.

The sick poor who are admitted to the modern union hospital are more fortunate than those who remain outside in their own homes, and my final words will be briefly devoted to outdoor medical relief. The same principles are applicable. Effectual aid is equally desirable. Is it available? You have a large staff of medical officers who are engaged to attend the outdoor poor at their own homes, to give not only first aid, but to attend in prolonged and serious cases of illness. If we look at the economical conditions of this staff we shall find that the principle of economy is very manifest. Medical officers are appointed who have large, sometimes enormous, districts, who find their own medicines and appliances, and who are paid at such a scale that each visit is remunerated at a very low rate.

The old argument is used. The law of supply and demand comes in. If guardians can obtain medical men at such a price, why should they pay more? The answer is not for me to give; but I am anxious to direct your attention to some aspects of these appointments. Efficient aid is what is wanted. Neglect may convert a common cold into a serious illness. The medical officer who is called in ought, in order to complete his work, to be able to prescribe for his patient and also to order any necessary food. It appears to me that it must hamper the medical officer to find all necessaries out of his salary, and certainly as he deals with disease in the most unfavourable surroundings he requires other help. His medicine alone can do very little good unless supplemented by nursing in the houses of the poor. The outdoor Poor-law nurse seems to me a fitting complement to perfect the system. This nurse should visit all cases attended by the Poor-law medical officer, and give force to all the medical directions. She should supervise all removals to hospital, and she should assist in many other ways. I am not in favour of increasing the work of the outdoor medical officer by this—viz., by keeping cases out of the hospital under his care. No, I think that it is better to send into the hospitals all cases that require prolonged or careful nursing and good food. I very much regret to note that there is such repugnance to the workhouse hospitals, that patients remain out as long as they can, often without medical aid, and sometimes only enter to die, swelling the death-rate in our hospitals. The guardians also know that a number of patients are sent in who are approaching their end. It is difficult to know how to deal with this class of cases. In many instances it would be more economical to increase the outdoor relief for the few days such patients may live, besides being more humane. With outdoor nurses this would be possible. We cannot disguise from ourselves that there is, too, a repugnance to apply to the parochial medical officer. This feeling is laudable, but is a reflection on the system which ought not to exist at the present day when guardians are humanising their work. I do not want you to break down the barriers or to make it any easier to obtain *free* medical advice. No, but I do want to convince you that you ought not to give simply *cheap* medical advice; that as you are entrusted by the State with the relief of suffering amongst the poor, you should give effectual medical aid, and and that you cannot give effective aid without the best machinery.

Gentlemen, in conclusion I can only repeat that I am not a *doctrinaire*. I give you my views and suggestions for what they are worth. It needs great care in administering your Poor-law funds, avoiding parsimony as well as extravagance. There never was a time when the needs of the deserving poor were more carefully considered and relieved, and there is no country like England where the sick poor are so tenderly and devotedly nursed. Medical advice in sickness is the great question of the day agitating the philanthropists from one end of England to the other. All kinds of schemes have been formulated to grapple with sickness amongst the labouring poor; but I hold that with an efficiently organised Poor-law system no poor person should dread the approach of sickness, and that for medical aid in sickness there should be no stigma in accepting such aid from the Poor-law.

Halifax

PUERPERAL SEPTICÆMIA TREATED WITHOUT STREPTOCOCCIC SERUM; RECOVERY.

BY EUSTACE M. SWANWICK, L.R.C.P. LOND., M.R.C.S. ENG.,
PHYSICIAN TO HARTLEPOOLS HOSPITAL.

THE above title is used to compare the case with the very full and interesting account of a case of puerperal septicæmia given by Dr. Rawlings in THE LANCET of Aug. 7th last. As in Dr. Rawlings's case, so in mine, there is no account to offer in the way of bacteriological examination.

A primipara, aged twenty-three years, whom I was engaged to attend at the end of July, sent for me on the morning of July 14th, 1897. The labour began about 1 A.M. The head presenting in the third cranial position made the labour slightly less normal than otherwise it might have been. A small quantity of a mixture of chloroform and rectified spirit relieved the urgency of the pain and the child was born at 5.25 A.M. There was a slight perineal tear, hardly to be dignified by the name of rupture, as it did not seem to involve any muscle. Before each infrequent examination my hands were rinsed in a 1 in 1000 solution of perchloride of mercury and lubricated with carbolised vaseline. On completion of the third stage a soluble pessary containing ten grains of iodoform was passed high up into the vagina, a binder applied, and the patient was left feeling comfortable. About 10 A.M. the temperature was 99° F. and the pulse was 84; there was no pain or malaise. In the evening the urine was drawn off with a catheter, well washed in disinfectant. During the 15th the patient seemed to be going on well. On the 16th, at 12.30 P.M., the temperature was 100·8°; at 2.30 P.M. there were pains all over the head, back, and limbs, and a feeling of cold water down the back, but no full rigor; the

pulse was 124 and the temperature was 104·6°. I gave a powder of fourteen grains of phenacetin and ordered seven grains to be given every four hours, a mixture containing acetate of potash and tincture of aconite, and an iodoform pessary to be introduced. There was no marked abdominal tenderness, but some tenderness of the fundus was present. Vaginal examination showed a slightly retroflected uterus with puffy cervix. There was no difficulty in reducing the flexion. No malodour was apparent in the scanty discharge. I called on the district professional nurse and asked her to administer night and morning an injection of *hot* solution of Condy's fluid and an enema of one pint of plain water, also hot. I diagnosed the case as puerperal influenza.[1] The tongue was of the influenza variety, moist and slightly furred. On July 16th, at 12.30 P.M., the temperature was 100·8°, at 2 30 P.M. it was 104·6°, and in the evening it was 103°. Subsequently the temperature was as follows:—

Date.	Morning.	Evening.	Date.	Morning.	Evening.
July 17th	101·0°	98·6°	July 22nd	99·8°	100·2°
,, 18th	100·0°	99·0°	,, 23rd	99·8°	98·8°
,, 19th	101·4°	103·4°	,, 24th	98·4°	99·0°
,, 20th	100·2°	102·2°	,, 25th	98·4°	—
,, 21st	100·2°	101·4°	,, 28th	98·6°*	—

* Became subnormal.

On the 17th and 18th she had nocturnal delirium and I prescribed 30 grains of bromide of potassium and one drachm of ammoniated tincture of valerian in two ounces of water; this was to be repeated night and morning when the restlessness was extreme. On the 19 h she had diurnal as well as nocturnal delirium. On the 21st I gave her a sulphate of quinine and hydrobromic acid mixture. From the 16th to the 21st the pulse varied from 110 at first to 140; it was generally about 132. On the 22nd I reduced my visits to one each day and the nurse took the evening temperature. On the night of Aug. 26th–27th the patient had chills and pains all over. The temperature was 100·8°. No puerperal condition could be made out. I ordered the mixture of acetate of potash and aconite together with the phenacetin powders. On the 27th, at 10 A.M., the pulse was 108 and the temperature was 99·6°; at 10 P.M. the temperature was 102°. On the 28th, at 10 A.M., the pulse was 108 and the temperature was 99·4°; at 9 P.M. the temperature was 98·4°. On the 29th, at 11 A.M., the pulse was 72 and the temperature was 98°.

Remarks.—Owing to the preliminary diagnosis of influenza I was led to make inquiries about previous illness. The hypothesis is that if there is no influenza at the time of labour or delivery the puerperal trouble begins at the end of the fifth day; if the patient has influenza at the time of labour there is a respite for two and a half days, and the influenza then reappears, generally in a different form, and frequently in a puerperal form.[2] I found that the patient had had chills and pains all over on July 9th, and she had noticed that her feet were swollen on the 7th. The labour was before the expected time, a common occurrence in influenza, and began about 1 A.M. on the 14th. The temperature chart shows on the 16th the rise beginning about 12.30 noon and a high temperature by 2.30 P.M. Except for absence of streptococcic serum treatment I treated the case on general puerperal fever principles, keeping the parts disinfected by Condy's washes and iodoform, while I treated the fever as an influenzal condition, avoiding stimulants and narcotics at first. When the patient was nearly out of danger, and her sister was congratulating herself and me on her recovery, I told her they must look out for a recurrence of the attack in seventeen, thirty-five, or fifty-one days from the commencement,[3] but that if they let me know at once on its recurrence we should probably be able to cut it short in three days. The tongue at that period was of a distinctly influenzal character. Now seventeen days from the 7th, when she noticed her feet swell, brings us to July 24th, when the patient was weak but convalescent in bed; thirty-five days, to Aug. 11th, on which date no new symptoms occurred; and fifty-one days to Aug. 27th. On the night of the 26th the temperature rose to 100·8° and the case ran as described above. As these cases occur so frequently in a more or less distinct form one is disposed to look upon them as a puerperal catarrh of an influenzal nature. The deaths from them are rare if treated as a catarrh. Out of a very considerable number of such cases I can remember only once losing a patient, and I believe that was a case of true "puerperal" fever engrafted on the influenzal catarrh, due to want of cleanliness on the very unprofessional nurse's part and general inattention to directions, the patient from the beginning having to attend to most of her wants as best she could. I cannot call to mind any similar cases anterior to the influenza of 1889, when they became frequent. The milk-supply also is generally unaffected, and if there is any malodour about the discharge it is of a peculiar mousey nature, which I cannot call to mind as occurring in any other complaint. I saw my patient on Sept. 11th and sent her into the country. She nursed the flourishing infant until the middle of October. At this time the child was taken from the breast owing to the nervous condition of the mother, who is to-day (Nov. 16th, 1897) doing well.

There are so many points in common between Dr. Rawlings's case and the above, and the injections of anti-streptococcic serum were in his case, so ineffectual, that it is suggested that we have a catarrhal germ infection not of a streptococcic nature. If the relation of these cases make us all more careful in future to look for the streptococcus it will be the means of our learning to distinguish between the various forms of puerperal fever.[4]

West Hartlepool.

[1] Vide Dr. Gray's Influenza (H. K. Lewis), pp. 37 to 44.
[2] Op. cit. [3] Op. cit.

A CASE OF ABSCESS OF THE LIVER; RUPTURE INTO THE LUNG; RECOVERY.

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FOR the notes of the following case I am indebted to Mr. Charles Lamplough, resident medical officer.

A man, aged thirty-five years, costermonger, was admitted to the City of London Hospital for Diseases of the Chest on Aug. 5th, 1897, complaining of diarrhœa and pain in the right side. He had never been out of England. His bowels had acted two or three times daily for two years, but with little or no abdominal pain or tenesmus, nor had he noticed any blood in the evacuations. He had had a slight cough for twelve months, and during the three months prior to admission he suffered from "shooting" pains down the front of the right chest with shortness of breath on exertion. On examination the patient was found to be a well-developed man, though emaciated and anæmic. No jaundice was noted. He had a slight cough with scanty mucoid expectoration and complained of a sharp pain over the right lower ribs in front. The chest was of good shape and expanded fairly well and equally. Anteriorly there was comparative dulness from the lower border of the fourth right rib in the nipple line to two inches below the costal margin; behind, the percussion note was comparatively dull below the inferior angle of the right scapula. Over the dull area the breath sounds, vocal resonance, and fremitus were much diminished, though not entirely lost, but no moist sounds were audible, nor was the voice of ægophonic quality. The heart's apex beat was in the fourth left interspace half an inch "inside" the nipple line. The sounds were free from murmur, the pulmonic second sound being accentuated. The pulse was 92, regular, and of fair tension and volume. The abdomen was slightly distended and tympanitic, not tender, but very resistant. The lower edge of the liver could be indistinctly felt about two inches below the costal margin. The spleen was not palpable. The bowels acted two or three times daily, the stools being large, fluid, and very pale, containing no blood or mucus. The temperature varied from 99° to 101° F. daily. The diarrhœa, pain over the upper part of the hepatic area, the enlarged liver with great abdominal resistance, the diminution of breath sounds, and the slight elevation of the heart without lateral displacement towards the right, together with the remittent temperature, suggested the diagnosis of abscess of the liver. Three exploratory punctures were made into the lower part of the right chest over the painful area, but nothing excepting a little blood was withdrawn. The patient gradually became worse until Aug. 16th, when suddenly at about 3 A.M. he had a fit of coughing, lasting on and off for about two hours, during which he expectorated about six ounces of dark fluid,

[4] Compare also Dr. Groth's case in THE LANCET, Aug. 14th, 1897.

of the typical anchovy-paste appearance; this was carefully examined by Dr. J. J. Perkins with a negative result, except that numerous torulæ were found. For the next ten days the man continued to bring up blood-stained purulent liquid, measuring about fifteen ounces daily and of a faint pinkish colour. During this period the temperature fell to subnormal, varying diurnally from 97° to 98°; the diarrhœa continued in spite of careful dieting and the administration of intestinal astringents and antiseptics. It was noticed also that the muscles of the right loin were much smaller than the corresponding muscles on the left side of the spine, though the former reacted equally with the latter to the faradaic current. This condition of the muscles, strange to say, seemed to give the patient no inconvenience in raising himself in bed.

After this the patient began to recover slowly, the expectoration diminished in amount, the cough became less troublesome, and the appetite began to improve. On examination of the chest the physical signs had also notably altered; the upper limit of dulness extended only to the sixth rib in the nipple line, though it remained high in the mid-axillary line, but again descended as it reached the spine, and the lower edge could now be felt just below the costal margin. On auscultation loud friction sounds with râles and rhonchi were heard over the fourth and fifth right ribs anteriorly. On Sept. 8th the patient had another sudden attack of coughing, and this time he expectorated several ounces of bile-stained fluid; excepting that his cough was rather more troublesome for the following fortnight, with an increase of moist sounds over the right lung, his condition was not materially altered. By Sept. 22nd the patient had ceased to expectorate bile-stained fluid, and from this time until his discharge, a fortnight later, his recovery was rapid and uninterrupted, his temperature again reached the normal level, the diarrhœa entirely ceased, the lumbar muscles recovered their normal size, and the patient gained 9 lb. in weight. The man left the hospital apparently quite well nine weeks after his admission and seven weeks after the date of the rupture of the hepatic abscess into the lung.

Remarks.—This very complete case is a good instance of a hepatic abscess occurring without any assignable cause. It also illustrates the fact that cases of abscess of the liver usually terminate favourably after rupture into the lung.

ON THE CLIMATIC TREATMENT OF PHTHISIS.

BY F. RUFENACHT WALTERS, M.D. LOND., F.R.C.S. ENG.,

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A MAN who is phthisical, or in danger of becoming so, is sure to be recommended a change of climate; but the diversity of climates reputed to be useful to such a patient is at first sight very puzzling. He may be sent for a sea voyage or to an Alpine health resort, to a high and dry tableland or to a low-lying seaside place; and bracing and relaxing, hot and cold places alike, are said to be useful in this same disease. How, then, are we to account for this diversity? Probably in part by corresponding differences in the form of the disease and the constitution of the sufferers, but mainly by the essential climatic factors being comparatively few in number and climate itself but one out of many matters of importance.

We may disregard for the moment the actively inflammatory stages of the disease, which, being usually treated indoors, will do almost equally well in any climate. We may also disregard the advanced incurable forms, in which the utmost that can be done is to prolong life or to render it more supportable. Confining our attention to the places with an established reputation for the *cure* of phthisis we find that with much diversity of minor details they all agree in the possession of certain common characters which we are justified in regarding as the really essential features. 1. In the first place, all such health resorts have a pure air, unvitiated by decaying organic matter or by the impurities inseparable from a large and crowded population. 2. Their atmosphere is free from dust and smoke. Dusty occupations are a fruitful source of lung disease. The dust and smoke of towns are highly injurious to phthisical patients, both from their mineral and organic particles and from the pyogenic and other bacteria which they contain. Even country dust is hurtful, and the most successful health resorts for phthisical patients have a large proportion of grass land or large sheets of water which help to purify the air. 3. These health resorts have a fresh and bracing as well as a pure atmosphere. In the Alpine and hill sanatoria the air is cool even with a hot sun; in the high tablelands the dryness of the air makes it more bracing, while the mornings and evenings are cool and refreshing; by the seashore or on the ocean there is always a cool breeze to temper the noonday heat; so that they all agree in being more or less bracing. 4. But if these health resorts are breezy they must have abundant shelter, for strong winds are very bad for phthisical subjects, exhausting their strength, interfering with respiration, and increasing the risk of chills. Many of the more favoured places are protected against the colder and more boisterous winds by surrounding hills or mountains; in others the necessary protection is obtained by means of forests. 5. These health resorts are also alike in having sufficient fine weather to make it possible to live almost entirely out-of doors. "If pure fresh air and plenty of it" be the best prescription for phthisical patients, an indoor life should be absolutely forbidden them. Many people are only out-of-doors for two or three hours out of every twenty-four, and spend the former in the vitiated air of towns and the remainder in close and ill-ventilated rooms. A scarcely perceptible breeze out-of-doors supplies a hundred times as much fresh air as enters an ordinarily well-ventilated room. It can therefore be readily understood what a powerful curative agent we have in an out-of-door life in a favoured country or seaside place, and how much depends on the manner of life. Sunshine is very helpful to the phthisical patient, not only because of its anti-bacillary properties, but also (and mainly) because of its stimulating influence on nutrition generally. On the other hand, if rain does not keep people indoors it is also advantageous, as it cleanses the air and lays the dust. Moderate atmospheric moisture is useful in soothing irritable mucous membranes, but it is apt to render warm places relaxing and cold and windy ones depressing. Some of the health resorts for phthisical patients are extremely dry, but others have a moist, cool, still atmosphere, while some are foggy and damp at certain seasons of the year without any very obvious injury to the patients. We may therefore safely conclude that a moderate proportion of wet weather is no serious disadvantage provided that it does not interfere with an outdoor life. Much may also be done by the provision of shelters in the open air to overcome such drawbacks. 6. Prevailing temperatures of themselves have probably only a secondary importance in the treatment of phthisis, as we find a great diversity in this respect among the different health resorts. Very cold places are depressing unless dry and free from wind. Very hot places are relaxing unless dry and breezy. The more robust patients do best where the air is cool and dry, with a fair range of temperature, while more delicate patients require a warmer air and greater equability, which is intelligible in the light of hydropathic analogies. The temperature to be chosen will depend in part on the original home of the patient. French soldiers from the north have been found to be especially liable to contract rapid forms of phthisis when brought to the warmer regions of the south.[1] According to Meissen, North German patients seldom do well at the Riviera; and English authorities agree that the records for English patients are not so good there as at some colder health resorts. Warm sunny lands are extremely pleasant and are very useful in tempting people out-of-doors; but where there are sufficient powers of reaction a colder climate is more likely to cure. There is a mistaken impression in certain quarters that an equable climate is essential to the cure of phthisis. But some of the most useful climates—such as those of the elevated tablelands of South Africa—are far from equable, owing to the extreme dryness of the air; while phthisis abounds in some which have a very small range of temperature. 7. But if a warm and equable atmosphere is not often advisable it is quite otherwise with warmth of soil. A warm, dry soil is essential to a health resort for phthisical patients. It has been clearly proved that phthisis is more common on damp soils and that efficient drainage has lowered the phthisical death-rate. A

[1] Colin: Phthisie Galopante, Paris, 1874.

damp soil renders a place less bracing in warm weather, chills the patient in cold weather, and shortens the hours which he can spend out-of-doors. A dry soil, on the other hand, radiates warmth during the cooler hours of the day and helps to cure catarrh. The best soils for phthisical patients are well-drained rock, sand, or gravel. With rock, as with other impervious soils, it is of great importance to have a rapid slope and an efficient outlet for subsoil water. 3. The question of altitude depends on a somewhat different consideration. That it is not essential to cure is shown by the almost equally good results obtained from sea voyages. But there is no doubt that in a certain class of cases great elevation above the sea-level is invaluable in promoting the expansion of sound parts of the chest. Still, we should remember that altitude is only one of the factors of treatment at high levels, which also benefit by their pure bracing atmosphere, their freedom from dust and wind, their abundance of warm sunshine, and in many cases the numerous advantages arising out of systematic treatment in sanatoria. Where these other factors are present we may reasonably expect a large measure of success, even without the advantage of high altitude.

If these, then, are the essential features of a successful health resort for the cure of phthisis, the question arises whether it is necessary, as a rule, to send patients out of this country, and whether we might not find a number of suitable places within our borders which with proper management would do admirably for such a purpose. We cannot, it is true, find Alps on elevated tablelands within our borders; but all the other essential features are to be found in many parts of England, while there are many important advantages in treating the patient in this country. There are many places in these islands with an admirable soil and climate which if suitably arranged would do extremely well for the fresh-air treatment of phthisis. Nor is this merely my own opinion, for many of our leading specialists adopt the same view. The main drawback to the British climate is its large proportion of cloudy and rainy weather. But this is of comparatively little importance if suitable shelters are erected, as in most of the continental sanatoria. We have, on the other hand, a more equable climate than the continental health resorts, while the somewhat greater atmospheric moisture of our drier neighbourhoods would be an advantage in many cases. Some of the best continental resorts have by no means perfect climates. According to Hermann Weber, "There are no perfect climates for invalids A climate with constant moderate variations in its principal factors is the best for the maintenance of health. ..... Such are the climates of England all the year round, and they belong to the most health-giving in the world. ..... They are, it is true, not the most agreeable or exhilarating, but the brightest and most exhilarating climates—such as those of Egypt, Spain, Italy, Greece, Asia Minor—are not the best for health and longevity; they are in many respects inferior to those of England."[2]

If, then, our climate is not unsuitable, it may be asked why our results in the treatment of phthisis are apparently inferior to those of the foreign health resorts. Partly I believe because up to the present many of the best districts have been neglected, partly because we have not taken the trouble (as they do abroad) to correct the natural disadvantages of each place for this purpose, and mainly because our treatment has been adopted too late, has been too short and too much interrupted, and entirely wanting in that systematic attention to details which is found in continental sanatoria. It is, in fact, not so much our climate that is at fault as the use we have made of it. Our bracing places have been left without sufficient shelter against winds, our sheltered places are during part of the year too relaxing, many of our health resorts are too dusty in dry weather, while others are being spoilt by the growth of population and by unregulated building operations. We have, in fact, made no serious attempt to develop our country's resources in this respect and to treat the disease with the continuity which is essential to success. There is no place within these islands where adequate shelter has been provided in the open air for rest and exercise during rainy weather, so that the open-air treatment degenerates into the indoor treatment of phthisis. Although it is admitted that in no other disease does attention to details answer so well as in phthisis, we exercise no continuous supervision over the patient's food, his clothing, attention to the skin, rest and exercise, the ventilation of his rooms, and other hygienic matters which are at least as important as medicinal measures. And this is largely because of the absence of sanatoria for phthisis in this country, and the prohibitive cost, not to say the impossibility, of thoroughly treating the disease on a small scale. There is no place yet in England where the phthisical patient can live for a year or two, with specially arranged grounds and gardens, specially constructed rooms and shelters, and a dietary specially prepared to suit his needs and fancies, while his symptoms are watched from day to day and promptly treated by experienced specialist physicians. And if he does get these advantages under our continental brethren, what wonder if their results seem better than our own? It has been too long the fashion amongst the laity to regard a climate for phthisical patients as a thing mysterious and altogether unattainable in our own land, while they totally disregard the many incidental matters which contribute so largely to the result. If, then, we wish to make a fair comparison between English and foreign climates let us make the other conditions the same. Until this has been done we have no right to conclude that our climate is not adapted for the cure of phthisis. In some other respects the patient who is treated in England already has important advantages which would be sure to tell if more systematic treatment were adopted. He is saved a long and risky journey, remains within easy reach of friends and relatives, and is spared the home-sickness which so often affects the Englishman in a foreign sanatorium. He has the advantage of English nurses—far superior as a rule to the foreign ones—English sanitation, English feeding, and English medical men who understand English ways. At one far-famed sanatorium on the continent there are just two baths in the basement of an annexe which are considered amply sufficient for the cleansing of over 100 patients and a staff of 60, besides other equally striking examples of unsuitability to English ways. If, then, we were to combine the advantages of treatment in England with the systematic methods of the Germans, and transplant a sort of Brehmer-Dettweiler system with suitable modifications on to our own soil, there is little doubt that the results would be at least as striking as they have been on the continent. Owing to fever and other complications it is often undesirable even in an early stage of phthisis to send the patient far from home; the ordinary middle-class household is by no means an ideal place for such a patient and seaside lodgings are still less satisfactory. Even in the homes of the rich it is unusual to find suitable arrangements for such cases, while ordinary hydropathic establishments, being intended for widely different ailments, are quite unsuitable in many ways. A timely resort to a special establishment without the need for a long and fatiguing journey would very often preserve a threatened life, while it would in no way injure the family adviser. The need for such a sanatorium, especially amongst the middle classes, has been so often brought home to me in my professional work that I have for some time past been making preparations to start such an establishment in one of our southern counties if my professional brethren give me the necessary support; and with this end in view I have recently paid a visit to some of the continental sanatoria of the same kind.[3]

What should be the main features of an English sanatorium for phthisis and the methods of treatment I propose to discuss in a future paper.

Welbeck-street, W.

[2] Allbutt's System of Medicine, "Climate in the Treatment of Disease," by Hermann Weber and Michael G. Foster.

[3] See THE LANCET, Aug. 14th, 1897, "On Some German Sanatoria for Phthisis."

CHIPPENHAM COTTAGE HOSPITAL.—On Nov. 8th the foundation-stone of the Chippenham Cottage Hospital was laid by Lady Dickson Poynder. The hospital, which will supply a greatly felt want in the district, has been liberally subscribed to by the inhabitants of Chippenham. The gifts include £500 from Sir John Dickson Poynder, and the land for the site from Mr. Carrick Moore.

BRISTOL CONVALESCENT HOME.—At the meeting of the committee of the Jubilee Convalescent Home Fund, held in Bristol on Nov. 11th, it was announced that Mr. E. P. Wills had increased the value of his gift to the proposed institution from £10 000 to £20,000. Sir Greville Smith has also subscribed £2000. This will bring up the fund to nearly £80,000. Mr. Wills believes that in a city like Bristol the collection of £100,000 for such a purpose ought not to be a very difficult task.

THE SEASONS AT THE SWISS ALTITUDES, AND WHEN TO SEND OUT PATIENTS.

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THE Alpine cure for phthisis, regarded not many years ago with incredulity or distrust by untravelled physicians, and hardly known to the great body of practitioners, is now generally accepted in this country; but a practical knowledge of its details has not yet extended for the majority beyond the initial stage in which it was first introduced to our notice. Meanwhile the subject has moved beyond a mere recognition of the fact that an Alpine winter is good for phthisis, and progress has been made both in the selection and management of cases. All cases are not suitable, and in a given proportion of them the responsibility of giving advice must remain an anxious one. It is probably exceptional in this country for phthisical subjects to take the decision into their own hands, as not infrequently happens abroad, and to proceed to Davos without medical advice or even in spite of it. Most patients sent out from England are fit subjects, but too often they do not avail themselves of their opportunity to the full extent under a mistaken idea that it must be winter before phthisis can gain any good in the Alps. This lessens the chances of recovery of so many that it is perhaps less of a presumption than of a duty to mention the impressions gathered during thirteen yearly visits to the Alps in winter.

If health were always the chief and only consideration a long unbroken residence in the high altitude would be the best form of treatment for nearly all sufferers from phthisis. It is, however, the smaller number only who choose to avoid the risk of losing ground again, which too often attends a return to England for the summer months. Still, the colony of permanent residents is a growing one, and it is among them that the most remarkable results are to be seen. They have experience of all the Alpine seasons, and are naturally, therefore, the persons best qualified to form an opinion as to their relative value.

Unfortunately home-sickness and the monotony of hotel life—from which those who occupy their own private homes in Davos are exempt—are important factors bearing upon the advisability of change; and they cannot be disregarded entirely, though some variety might be found within the Swiss altitudes themselves. The summer visit to England will therefore probably continue to be the rule rather than the exception for those who have wintered in the Alps.

It is for those whose illness comes under observation after the close of the winter season that a question arises which is not always answered in a sense conducive to their best interests. Ought they to be made to wait until the following winter? Such a course would mean for them the loss of a golden opportunity, that of applying the remedy at an early period of the disease. A moment's consideration will show that the influence of pure air and high elevation, which are the principal agents of cure, is not limited to the winter. If a summer spent in the Alps is the best of tonics for the overworked and jaded, could it possibly be detrimental to the phthisical? Experience shows that it is good for them; why, therefore, should they be deprived of this help?

As a fact, a climatic advantage is to be gained *at all seasons* more marked it is true in winter, chiefly on account of the evils attending a winter residence in England, but not on account of any essential therapeutic inferiority of the Alpine summer. It cannot be too widely known that all seasons in the Alps are good for phthisis, and that as soon as a patient has been found fit to travel he cannot defer his journey without incurring a positive loss. A summer in the Alps is the best of all preparations for an Alpine winter. This is also the season of least risk for the invalid, when the journey can easily be so arranged as to break the suddenness of the change to a high elevation, which is always a source of some anxiety. In the depth of winter, too, the sudden change to an intensely cold atmosphere is not in itself desirable or always favourable. These risks are avoided by patients who take up their winter quarters before the weather hardens.

Cases must of course be dealt with on their individual merits and with due regard to all their circumstances, but it may be stated in general terms that the benefits of a residence in the high altitude are largely independent of the season of the year, and that the best time for each patient to start is the earliest that can be safely managed. The melting of the snow in spring and the uncertain and snowy days in the late autumn are the least desirable periods, but the newly arrived patient who spends them with open windows in his room or even, according to the rest-cure now in vogue, in his bed is better off than he would be in England and is turning time to the best account. I have sent patients to the high altitude at various periods in the year irrespectively of seasons without any cause for regret. As regards the flitting of the winter contingent I am in favour of an early rather than a late start, and of acclimatisation rather than of abrupt change in elevation and in temperature. What may be gained by patients going out early is best described in the words of a recent correspondent of mine, an old Davoser who in describing a patient says: "He like others was sent out late last year (the end of November) and thinks he never gained real good all the winter because he arrived so late. This year he asked no advice as to the date, but came early in September, and rejoices daily that he did so, as he has got on steadily and has come in for all this most perfect weather. We are having a record autumn. Our autumn is always lovely, though rarely so lovely as this. This is the thirty-first day of fine weather—days not to be described, sun ablaze all day, not a particle of moisture, no clouds, no wind, about 8 to 15 degrees of frost at night, making the days deliciously bracing, and yet they are warm, almost like summer at midday. Of these thirty-one fine days only three or four have been cloudy, but none bad. All this time in the lowlands, even up to two stations above Landquart, and almost everywhere in England, a damp raw mist prevails; and yet we hear from people in England that they are coming out here the end of November, but that they are advised not to come till then."

Curzon-street, W.

MEDICAL HÆMORRHAGE.[1]

BY FREDERICK J. SMITH, M.D. OXON., F.R.C.P. LOND.,

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THE term "medical hæmorrhage" is one which does not require much explanation. Bleeding is usually thought of, perhaps, as peculiarly the province of the surgeon but the instances are by no means few in which it forms a very important feature in strictly medical cases; and when it does thus occur it is so terrifying to the patient and causes such anxiety to the attendant medical practitioner that no excuse is needed for bringing the subject forward; it is imperative on us all to be as sure as possible of the ground on which we stand when attempting to control it. To give a clear idea of my meaning of the term I offer the following list of cases to which it is applicable. All intracranial hæmorrhages not due to violence; hæmorrhages appearing from the mouth or nose, as "spitting or bringing up of blood"; epistaxis of youth or old age; bleeding from spongy gums or pharyngeal varicose veins; aneurysm of the aorta; hæmorrhage from the lungs in bronchitis, pneumonia, phthisis, emphysema, malignant disease, &c.; hæmorrhage from the stomach or duodenum; hæmorrhages appearing from the anus either as blood or melæna, or in typhoid fever and other forms of ulceration—e.g., tuberculous or dysenteric; gastric hæmorrhage if not vomited; hæmorrhage from piles internal and external; hæmorrhages appearing from the urethra as blood in the urine; from bladder or kidney, from the vagina in women, metrorrhagia, menorrhagia, or post partum hæmorrhage; and subcutaneously—purpura, idiopathic or rheumatic, &c., and scurvy. A mixed class of cases is due to serious disease—leucocythæmia, acute yellow atrophy of liver, some other forms of blood poisoning, and hæmophilia. This list, probably incomplete, is sufficient to show how important and frequent is that loss of blood which may be termed medical and concerning the treatment of which I wish to mention a few points.

[1] A paper read before the Hunterian Society on Nov. 10th, 1897.

The cases divide themselves very naturally into two groups—(1) those with some severe, perhaps even necessarily fatal, constitutional or general dyscrasia or diathesis; and (2) those without such concomitant. The first group, containing purpura, scurvy, hæmophilia, leucocythæmia, blood poisoning, &c., is perhaps the most interesting from the great obscurity of the pathology of any member of it, but to discuss it at all fully would occupy too much space. Suffice it to say briefly that in scurvy good and proper food is all important; in purpura, if of rheumatic origin, Dr. S. Mackenzie swears by turpentine; if due, as so many cases of mild purpura are, to a chronic lack of good nourishment, especially of vegetable origin, the remedy is tolerably obvious—to supply this want—and the cases get well as a rule; in severe purpura (so-called hæmorrhagica) and leucocythæmia treatment is of little avail, though the most hopeful would appear to be large doses of calcium chloride both internally and applied as a styptic; Professor Wright has shown that this, at any rate in hæmophilia, is of considerable service. But in all these diseases and others of the first class we are trying as far as possible to cure a tendency to bleed; it is comparatively seldom (and then the principles laid down below will apply) that the external appearance of blood is of such character or amount that we are called upon to check the bleeding itself, and it is to the immediate treatment of actual hæmorrhage that I wish to direct attention, commencing with the assumption that both the blood and the vessels are healthy in general with merely a local lesion of the latter, and proceeding more especially to the inquiry, what place, if any, have ergot and astringents in the treatment of the condition. My attention has been particularly drawn to the subject in consulting practice—the cases are of such a startling character as to naturally suggest a second opinion—and my almost invariable experience is that ergot has been freely administered directly any severe hæmoptysis or hæmatemesis has appeared. Now underlying this routine practice I am convinced that there is a serious fallacy.

The following is perhaps the most marked example I can produce, but it does not stand alone. I was called to see a man in consultation on a Thursday and found that he was suffering from a severe loss of blood by the mouth, he was so blanched and weak that I dared not make any careful examination to definitely determine the source of the blood, and for immediate treatment I do not consider this very important. The history given me by his medical man was that the hæmorrhage had begun on the previous Friday; ergotin had been injected subcutaneously on Friday, on Saturday, and on Sunday; on Monday the hæmorrhage had been more profuse and, notwithstanding the injections, had reached its acme on the Wednesday evening; when I saw him on Thursday morning he had brought up about an ounce of blood; in the evening of that day he brought up a little more; after this he had no return of bleeding and steadily improved—got well, in fact, as far as my present purpose is concerned. On talking over the case we agreed to omit the ergot and substitute for it a little morphia. So far and were this all the case against ergot would seem to be almost too simple, but there is a sequel to the event which complicates matters and which was, in fact, the cause of my determination to try to get the question discussed. The sequel was this: I wrote, as is my custom, to the medical man to inquire how the case had progressed. In his reply he mentioned the hæmorrhage on the Thursday subsequent to our consultation, but confessed that he had again administered an injection of ergotin, and wound up his letter: "I trust you will not be offended, as not even you will convince me that ergot will not stop bleeding from lung or stomach if it be given sufficiently boldly." I was certainly not offended, but I was led to think very seriously of our present problem.

The points in the argument stood and stand thus: Did ergot finally check the hæmorrhage? If so, why did it not check it sooner? Did it really increase the hæmorrhage in the first two or three days? or had it no real influence whatever? In any case, was it a matter of dosage? Modern pharmacology, as represented by Dr. Lauder Brunton (and, I might say, by all other authorities, for there is no serious discrepancy between them in the physiological action of the drug), asserts of ergot that it (1) stimulates the vaso-motor centre in the medulla and any other subsidiary centres controlling blood pressure, and thereby causes an increase in this pressure; (2) depresses the motor ganglia of the heart bringing about a slower and less powerful pulsation; (3) acts on unstriped muscular fibres causing their contraction and thus a diminution in the calibre of the arterioles; (4) has no effect in producing a coagulum in a blood-vessel; (5) is a direct emmenagogue and ecbolic; and (6) markedly increases the peristalsis of the bowel. There seems to be only one point of dispute amongst experimenters—viz., whether the universally admitted increase of blood pressure is brought about by direct action of the drug on the unstriped muscle of arteries, or whether it is indirectly due to stimulation of spinal and other vaso-motor centres, a point which I venture to think is immaterial for clinical purposes.

We are now in a position, so far as ergot is concerned, to discuss the second group of medical hæmorrhages, viz., those in which except for the local damage the blood and the vessels are in general fairly healthy, and where the arrest of bleeding is the immediate object of our therapeutical measures, which by assumption cannot include surgical ligatures or forcipressure. It is obvious at once that the blood must come from (1) an artery, (2) a vein, or (3) capillaries, and it seems to me that here in a nutshell lies the possible, if not probable, explanation of the variable effects of ergot and the real scientific clue to the principles which should guide us in attempting to control a hæmorrhage which is beyond the reach of strictly topical applications. If the bleeding be arterial I cannot understand how the effect of ergot can be other than to increase it; blood pressure is increased throughout the arterial system, the damaged artery must therefore feel it equally with the others for we have not even a suggestion that ergot can exert a selective action on particular arteries; if it does thus feel it, then from the very fact of its damage and laceration it must be less capable than before of restraining the outflow of blood from its lacerated extremity—the stream may not be so large but the force of current is greater, and hence the greater liability to wash away any clot that nature has formed; it must be remembered in this connexion that it is distinctly stated that ergot has no tendency whatever by its presence to promote clotting at the end of the vessel or in the extravasated blood. If, on the other hand, the blood comes from a vein or from capillaries it is easy to understand why ergot might be expected to act beneficially, by diminishing the flow of blood through arterioles to the damaged spot. If my steps in the argument are sound, it follows that we ought to try to determine whether it is arterial, venous or capillary hæmorrhage which we are attempting to arrest before we administer ergot. This we cannot expect to determine by the intermittence and jerkiness of the flow; we must judge by other considerations gleaned from clinical study and the facts of the post-mortem room. These help us materially, and I shall say a few words about them in connexion with one or two varieties of our second group of medical hæmorrhages. Before I do so I would like to consider what are the means other than ergot at our disposal in the treatment of the condition under discussion.

Rest.—Rest, complete and absolute, bodily and mental, must occupy the place of foremost importance. The need for rest of body by lying in bed is obvious to all; it requires no argument, nor need I mention the means for obtaining it. To secure mental rest and allay the terrible fright into which the sight of copious bleeding throws the patient is even more important; it is fright that depresses vitality and tends to kill its victim. We must first of all hide our own anxiety, for patients are quick to read the faces of those attending them, and, indeed, we usually need have none, for cases of hæmorrhage are either from the first obviously and hopelessly fatal, as ruptured aneurysm, for instance, when we have no time to show anxiety, or they are rarely fatal directly from the loss of blood. As for drugs, none that I am aware of, unless it be cannabis indica, can come near to opium in efficacy for the relief of mental terror. It has no specific effect on heart or vessels when given in moderate medicinal doses, but its value is incalculable, and when we see its soporific effect stealing over the patient we may confidently assume that danger has passed.

Cold and heat.—It is the fashion to place an ice-bag on the chest or abdomen when severe bleeding has taken place, but I have not seen the slightest reason for believing that it has any effect whatever in checking the hæmorrhage. It hinders sleep and rest and constantly reminds the patient of his peril, and should therefore be avoided.

Styptics and astringents.—Of these I would mention sulphuric acid, bismuth, chalk, lead acetate, iron perchloride,

and tannic acid with the vegetable preparations that contain it, such as catechu, kino, hamamelis, &c. Any of them are extremely useful if they can be applied directly to the bleeding vessel—e.g., in gastric or intestinal hæmorrhage, but as indirect—i.e., after absorption—controllers of bleeding I believe them to be as useless or even harmful as ergot itself. Turpentine, too, must not be omitted, as from its volatility it may reach the affected area by inhalation, while iodide of potassium and purgatives are very useful adjuvants. Accepting this list as fairly representive of our armamentarium I will bring this paper to a close by a very brief sketch of the means I would propose to adopt in treating the individual cases of Group 2, mentioning the reasons deducted from post-mortem experience.

Cerebral hæmorrhage is almost invariably arterial, consequently I believe that ergot and its allies are contraindicated, rest is strongly indicated, and possibly purgatives and iodide of potassium may be given if further treatment seems desirable. The epistaxis of youth rarely requires more than the application of cold to the nose or sniffing up of powdered alum; that of age should not be too early interfered with as it forms a safety valve against intracranial arterial rupture; should it be too prolonged the local measures will again be useful, if also the patient be placed sitting upright with the feet and legs in very hot water, then plugging of the nares will be but rarely required. Pharyngeal hæmorrhage rarely requires any treatment, but the electric cautery may be applied if necessary. In hæmorrhage from the lung I believe that all our active efforts will have but little real effect. In bronchitis, pneumonia, and in the early stages of phthisis, the bleeding is rarely more than slight and will usually stop by itself if the patient be kept quiet in bed and his mind put at rest as to his danger; should it prove more profuse, in my opinion, opium must be pushed and iodide of potassium freely administered. It is in rare cases of emphysema and in the advanced cases of phthisis that we feel so anxious to employ more active measures. But post mortem we find that in such cases the bleeding is almost invariably arterial, and I must confess myself feeling very sceptical as to the value of any more active treatment which has been hitherto advocated. I feel that to bring and keep the patient well under the influence of opium with perhaps the inhalation of turpentine is as much as we can do, however distressing it may be to us to stand by and feel so helpless. I wonder whether artificial pneumothorax would be of any use.

In hæmatemesis we are more favourably situated and can adopt measures more actively and with greater hope because our drugs can reach the bleeding spot. In the young an ulceration into an artery is the almost universal causation of such trouble, and here the swallowing of ice or ice-cold water in small quantities or per contra (and better, I believe) hot water at 110° F. is very likely to be of use, while bismuth, chalk or strong solutions of tannin will very rapidly cause the formation of a plugging clot. Ergot in such cases I think worse than useless. In the hæmatemeses of older people there are two probable or possible sources for free bleeding: (1) an ulcer, chronic or malignant, in which the treatment just suggested is the best; and (2) a ruptured vein or capillary oozing from a cirrhotic liver. Here, in addition to the foregoing, ergot may perhaps be useful, though I would prefer to try free purgation.

In the hæmorrhages of typhoid fever, if profuse and accompanied by collapse and subnormal temperature, morbid anatomy has shown that an artery has always been ruptured. Such are I fear almost invariably fatal, but I believe that even here opium freely administered may save some lives. I would also give bismuth and liquid preparations of lead, though I doubt if they can reach the spot in time; ergot I feel sure must make bad worse. Slight hæmorrhage in typhoid fever I have been led to look upon as a favourable sign and one that does not require any active treatment beyond a little extra care in withholding food and seeing that the bowel is kept open. It is in all forms of uterine hæmorrhage that ergot finds its best and most correct application. On the grounds, firstly, that such hæmorrhage is almost invariably venous or capillary; secondly, that the mass of unstriped muscle in the organ is so large relatively to that in an arteriole as easily to overcome any extra arterial blood pressure.

To conclude a somewhat rambling and yet very condensed article, I would make four propositions for discussion:—1. That most cases of medical hæmorrhage cease spontaneously and are essentially not dangerous to life from loss of blood. 2. That active treatment by ice-bags and ergot frequently defeats its own purpose; if the bleeding ceases it does so in spite of treatment. 3. That where experience of morbid anatomy or the profuseness of the blood loss makes an arterial source certain ergot is distinctly contraindicated. 4. That complete rest, opium, and iodide of potassium are our most powerful and most trustworthy agents for the emergency, except in certain special cases—e.g., from stomach—where additional treatment by astringents should be applied.

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CONCERNING THE ACTION OF X RAYS ON CULTIVATIONS OF TUBERCLE BACILLUS.[1]

BY FRANCIS POTT, M.D. BRUX.

THE treatment of pulmonary tuberculosis in man by means of x rays has been described by several experimentalists.[2] In the cases thus treated improvement in the state of the patient was ascribed to the curative agency of the x rays, but no sufficient proof of this action has been given, nor is there any indication of the manne in which the rays affect either the tubercle bacilli or the surrounding tissues. The experiments detailed below were undertaken with a view to ascertaining whether x rays inhibit the growth of or kill the tubercle bacillus. Preliminary experiments with x rays and glass test-tubes showed that different makes of glass were opaque to x rays in very different degrees. Soda-glass test-tubes with sensitive paper beneath them were exposed to x rays of the same intensity as those used in the subsequent experiments. Objects such as pins, keys, and chains were placed inside and underneath the test-tubes. The resulting skiagrams gave perfect pictures of those objects opaque to the rays which were inside and underneath the test-tubes, whilst the soda-glass test-tubes themselves were but faintly outlined at those points where the x rays had had to pass through the greatest thickness of glass. The slight resistance offered to x rays by thin soda-glass test-tubes was not considered to be sufficient to mar the value of the inference drawn from the following experiments.

Into twenty-five sterilised test-tubes glycerine agar-agar peptone was run and allowed to solidify in the position used for streak culture, so as to give a large flat surface. On April 21st, 1897, the agar in the tubes was sown with tubercle bacilli taken from a cultivation belonging to Dr. Arthur Ransome which had been obtained from University College Hospital and been shown to be pure and vigorous. The laboratory work was carried out by Mr. F. J. Tanner at Bournemouth. The twenty-five inoculated test-tubes were incubated at 37° C. for a month. By this time characteristic colonies of tubercle bacillus had developed in each of the tubes either as films, small colonies, or heaped-up masses. No growths other than tubercle appeared in the agar. The test-tubes were divided into sets of three and one set of four, numbered and lettered. One tube from each set was reserved as a "control," the remaining seventeen being exposed to the x rays. To ensure an equal distribution of x rays over each inoculated surface of agar the test-tubes were laid flat upon a horizontal rotary table with their closed ends converging to the centre of the table. This arrangement placed all the test-tubes well within the focal area of the Crookes's tube which hung above them, whilst it allowed the table and its load to be shifted around from time to time. Beneath the rotary table there was a space for the admission of a sensitive plate. To demonstrate that the x ray apparatus was working well at any moment during the lengthy exposure a sensitive plate was slipped into its place, exposed, and developed at once, producing a picture of the pins and metallic trifles which had been scattered amongst the test-tubes. The apparatus used for producing the x rays consisted of an induction coil giving a 5″ spark, a ten volt accumulator, and several Crookes's tubes of modern pattern. These tubes were occasionally interchanged to rest them. At the

[1] A paper read before the Bournemouth Medical Society on Nov. 10th, 1897.

[2] Chapteloube and Descomptes: Archives d'Electricité Médicale, vol. v., 1897. Bergonié and Mongour: Académie de Médecine, &c.

suggestion of Mr. Howlett, of Hull, damped wool was successfully used on the vacuum tubes to prevent sparking.

On May 23rd, 1897, the seventeen test-tubes containing the cultivations of tubercle bacilli were exposed to the x rays. The series of cultivations received exposures varying from half-an-hour to eleven hours. Two tubes were withdrawn from the area of the x rays at intervals of half an hour, one, two, four, six, eight, and ten hours, the remaining three tubes receiving the full exposure of eleven hours. During these eleven hours the control cultivations were taken out of the incubator and placed in a protected place at ordinary room temperature similar to that in which the experiments were carried out. At the conclusion of the experiments the whole number of cultivations was returned to the incubator.

During the first week of September, 1897, the cultivations were examined, a period of over three months having elapsed since they were exposed to the x rays. All the colonies of tubercle bacillus were found to be thriving. Differences in the rate of growth of the colonies were perceptible, both in those which had been exposed to the x rays and those which had been used as controls. These differences were only such as are usual in a series of agar cultivations of tubercle bacillus. In tube No. 16, which had been exposed to the rays for eight hours, the activity of the growth was remarkable, the colony of tubercle bacillus taking the shape of an acuminated corrugated mound with a base area somewhat larger than a threepenny piece. From this largest growth the colonies graduated downwards in size to that of a pin's head. The development of the colonies during the three months between the exposures and the final examinations was in accord with that of any large series of tubercle bacillus cultivations.

A comparison of the colonies exposed to the x rays with those used as controls showed no variation in colour, size, or manner of development which could be attributed to the different treatments which the colonies had undergone. These experiments point to the conclusion that x rays do not affect the tubercle bacillus, and lead us to believe that the improved condition of tuberculous patients who have been submitted to the influence of x rays was due to causes other than the action of the rays.

Bournemouth.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF TETANUS SUCCESSFULLY TREATED BY TETANUS ANTITOXIN.

BY W. H. SMART, M.A., M.B. CANTAB., M.R.C.S. ENG.

A MAN, aged about forty years, came to me on July 4th, 1897, with the last phalanx of one finger crushed; the nail was removed, but the bone was uninjured. The wound was cleansed and dressed with cold water applications. All went well until July 13th, when his jaw felt stiff. During the night of the 14th he had pain in the legs, and the next day he sent for me in the afternoon, when I found him suffering from tetanic spasms of the legs occurring, I was told, about every half-hour. The jaws would open about an inch with pain, the corners of the mouth were drawn up, the eyebrows were raised, and the forehead was wrinkled transversely. There were no spasms of the arms or opisthotonos. The bowels had not been opened for four days. He was given five grains of calomel and a mixture containing two drachms of bromide of potassium and one drachm of chloral hydrate, an eighth part of which was taken every three hours. He slept during the night, avoiding spasm of the legs by keeping them drawn up, but the spasm came on again immediately any attempt was made to straighten the legs. On the 16th the jaw appeared to be a little less stiff, but the spasms were still very severe. I amputated the injured joint under chloroform and injected 10 c.c. of antitoxin at 12 midday. At 6 P.M. the spasms were less frequent, the jaw was still stiff, and the finger was painful. He could put the legs down and draw them up again, but it caused trembling and some stiffness. There was no spasm of the back, and the muscles of the face and forehead were in the same condition; 10 c.c. of antitoxin were injected. On the 17th I was told he had had a quiet night, but that the spasms had come on again at 10 30 A.M. The finger was dressed with chlorinated soda lotion, 10 c.c. of antitoxin were injected, and five grains of calomel were administered; the mixture to be taken as before. At 9 P.M. the patient was better, but the jaw was stiff. The spasms commenced when I came, perhaps owing to nervousness; 10 c.c. of antitoxin were injected. On the 19th he complained that he could not micturate except when out of bed, while he had pain in the right side and leg. I made him straighten and draw up the leg, which caused much trembling, but the spasms were evidently much less, and so he was reassured. On the 20th he felt better; he could open the jaws wider, and could lie with the legs stretched out. On the 26th the mouth could be opened wide; the legs were weak and inclined to get hard in the calves, but were otherwise much better. This day a carbuncle was found to be developing in the neck; this ran its normal course and the patient made a complete recovery. In all, 50 c.c. of antitoxin were injected; and though the sedatives may have assisted in the successful treatment (the bromide was continued almost until the man went to his work), I think that the symptoms were much alleviated after each dose of the serum was injected.

Polesworth, near Tamworth.

NOTE ON AN UNUSUAL ATTACHMENT OF THE FUNIS.

BY W. F. GARDENER, M.R.C.S. ENG., L.R.C.P. LOND.

ON Oct. 25th last I attended a primipara who was within a fortnight of her full time. The labour was normal and she was delivered of a small fœtus. The cord was then seen to be expanded at its fœtal attachment into a keel-shaped mass, with long diameter running from above downwards in the fœtus. The "fault" in the abdomen measured 3¼ in. in length, 2½ in. in breadth, and stood up from the abdominal surface 1⅛ in. The mass consisted entirely of Wharton's jelly. The fœtus lived thirty-six hours.

I was unable to obtain permission to make a full post-mortem examination, but an incision into the tumour revealed beneath a layer of Wharton's jelly an inch and a quarter in depth the liver and transverse colon, so that a very large umbilical hernia would have resulted if the child had lived. I believe this to be a very uncommon condition.

Sydenham.

ARTERIAL OBSTRUCTION IN AN OLD MAN; EMBOLISM; ENDOCARDITIS; RECOVERY.

BY ERNEST MABERLY, M.R.C.S. ENG.

THE patient, a man over seventy years of age, who, with the exception of an attack of influenza, had as far as he could remember always enjoyed the best of health, came under my care on April 9th, 1897. Just two months previously he had received a severe bite from a dog on the left leg. No medical man was at first called in to the case, the patient treating the wound himself with an ointment of soap and honey and eventually applying sticking plaster. The wound appears to have partially scabbed over under this treatment, but it became very offensive and there was great congestion and swelling around it. When seen by his medical man nine days later a Goulard lotion was applied four times a day for a week. On Feb. 25th the wound was dressed with zinc ointment and bathed with warm water four times a day for a week and the leg was bandaged; the patient remained in bed most of the time. Before he left home on April 5th he began to walk about a little. On April 9th I was called in for the first time. He complained then of great constipation and flatulence and of considerable pain over the hepatic region. On examination I found the liver very congested; the tongue was white and thickly furred; the motions were clay-coloured; hardly any action of the bowels had taken place for a week. One tablespoonful of castor oil was given, and a mustard leaf was applied over the hepatic region. No action of the bowels was obtained until five grain

of calomel were administered at bedtime and half-ounce doses of sulphate of magnesium in the morning. After continuing this treatment for four days, the bowels began to act well. The motions were still hard and clay-coloured. On the 14th the patient's general condition was very little improved. He still complained of flatulence and pain in the hepatic region. The tongue was white and thickly coated, and he still had a bitter taste in the mouth. The heart and lungs were normal. There was no albumin in the urine. On the 15th the patient was confined to bed and he had a restless night. On listening to the heart a distinct soft systolic murmur could be heard at the apex. There was no thrill. The respirations were 26, the pulse was 100, and the temperature was 99·4°. There was no albumin. Large doses of quinine and iron were given with sulphate of magnesia every four hours. As to diet, milk, eggs, and beef tea were ordered. At 6 P.M. the respirations were 28, the pulse was 96, and the temperature was 99·8°. There was no trouble with the urine, which was free from albumin. At 2 A.M. no pulse could be felt in the left wrist. Hot fomentations were applied to the forearm. The nails were very blue. On the 16th, at 11 A.M., the respirations were 18, the pulse was 84, and the temperature was 98·5°. The radial left pulse was scarcely perceptible. On listening to the heart a very loud systolic murmur could be heard. The whole of the left forearm was painful; it was very blue and congested. The hot fomentations were still continued and at 2 P.M. the pulse of the left radial artery was stronger. On the 17th, at 10 P.M., the pulse of the same vessel was very thready. The respirations were 28. The mitral murmur had gone. On the 19th the forearm was resuming its natural colour. There had been a great deal of pain in the left leg all night. Hot fomentations were ordered. On the 20th, at 12 noon, the pulse was 78 and the respirations were 24. The patient still complained of great pain in the left knee-joint. There were no cardiac murmurs. No pulse could be felt in the foot. The hot fomentations were continued. On the 21st, at 10 A.M., the pulse was 72, the respirations were 18, and the temperature was 98·4°. The pulse returned in the foot. There was no pain. The fomentations were discontinued. From this date up to April 29th the patient made an uninterrupted recovery.

Throughout the illness, although there was great constipation, the patient perspired freely, and this no doubt accounted for the comparatively low temperature. Stimulants were freely given during the illness. When convalescent the patient went to the seaside for a couple of months. Swelling of the foot and leg continued for some time, but this was reduced by careful bandaging and massage and at the end of two months he wrote to me saying that he was well enough to return to his ordinary duties.

Eversley, Hants.

MANCHESTER CHILDREN'S HOSPITAL.—On Nov. 13th Sir William Agnew formally opened a new convalescent home which he has built and equipped and presented to the Manchester Children's Hospital. The home will accommodate twenty-five patients, and it is expected that the resident officials will be a matron, two nurses, and two servants. It stands about a mile from St. Anne's railway station on the road to Blackpool and has a fine view of the sea. Mr. J. Francis Richardson, chairman of the board of governors, presided at the ceremony and received the deed of gift from Sir William Agnew who said that there was no incident in his career that he would refer to with greater pleasure than the transaction of that day.

LUXOR HOSPITAL FOR THE NATIVES OF UPPER EGYPT.—An appeal is being made by Mr. Thomas Cook for contributions towards the support of this hospital which was opened by His Excellency the late Khedive at the commencement of the year 1891. In order to show the necessity for such an institution it is stated that on the day of opening fifty natives were waiting for the medical officer's attention and up to the spring of the present year medical and surgical treatment was afforded to 25,820 cases, for whom about 493 operations were performed, and no less than 28 781 out-patients had been relieved, of whom about 5178 were females. During last year 327 in-patients were treated, the daily average of in-patients being seventeen. 6240 diets were issued and 107 operations performed. Each ward is isolated from the others, and there are twenty-six beds available for in-patients.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

A CASE OF ANEURYSM OF THE ABDOMINAL AORTA, WITH SYMPTOMS OF RENAL COLIC; NECROPSY.

(Under the care of Dr. CHEADLE.)

THE following case derives its interest from the great similarity of the symptoms in the early stages to those of renal calculus, and later to those of perinephritic abscess. Aneurysms of the abdominal aorta may attain no inconsiderable size without giving rise to any painful symptom, but this is only possible when the aneurysm arises from the anterior aspect of the vessel, for when the aneurysm grows backwards from the artery and presses on and erodes the vertebræ pain, violent and lancinating, is generally present. For the notes of the case we are indebted to Dr. F. John Poynton, Medical Registrar, and Dr. Arnold F. Bill, Demonstrator of Pathology.

The patient, a man aged forty years, was admitted to St. Mary's Hospital on June 2nd, 1897, on account of paroxysmal pain in the abdomen shooting down to the left testicle. This had occurred in paroxysms sometimes once a week and sometimes once a month for the last four years, but during the last six weeks they had become more frequent and more severe; he had, in addition, suffered from headache, hæmaturia, and hæmoptysis. He was of middle height and emaciated, and his face was pale and worn with pain. The temperature was 101° F., the pulse was 84, and the respiration was 20. He said that the pain was situated on the left side of the abdomen and in the left lumbar region, and that when a paroxysm came on it shot down to the left testicle and was so severe that he was compelled to hold his scrotum with his hand. He had never vomited with the pain nor was it increased on movement. Examination of the abdomen showed slight retraction of the parietes with marked hyperæsthesia over the left kidney, both in front and behind, but revealed nothing further. The bowels were constipated. The urine contained a trace of albumin but no blood. The cardiac impulse was forcible and was felt in the fifth space just outside the nipple. No adventitious sounds were heard. The lungs were apparently normal. On June 4th, at 2 A.M., after micturition, a severe paroxysm of pain occurred, commencing in the left testicle and passing up the left side of the abdomen, without vomiting or blood in the urine. A dull, aching pain remained after the attack. Several more severe attacks of pain occurred during the week, but on June 11th the symptoms changed. There was violent heaving over the left side of the chest, pulsation was present in the epigastrium, and a loud systolic bruit was heard over the upper part of the abdominal aorta. The twelfth rib was moved by pulsation in the left flank and over it the heart-sounds could be counted. There was an impaired note in the left lateral region of the chest reaching to the tenth rib. On the 25th the patient felt pain down the front of the left leg to the foot and the pulsation in the epigastrium had extended to the right of the middle line. On July 5th he was blanched. The dulness in the left side of the thorax had reached to midway between the spine and angle of the scapula. At the upper limit there was ægophony and over the dull area the breath sounds were faint. There was fulness in the left renal region, which was very tender on pressure and gave a dull note on percussion. Since June 25th the temperature had varied between 99° and 100°. On July 8th the patient became unconscious and died. During the last few days the bruit in the epigastrium had disappeared.

Necropsy.—A post-mortem examination was made by Dr. Poynton, and a detailed dissection by Dr. Bill after removal of the aneurysm and surrounding structures from the body. The body was found to be much emaciated. In

the left pleural cavity there was a considerable quantity of clear fluid. Centrally and to the left the diaphragm bulged upwards displacing the heart. The descending colon was remarkably small, and was superficial to a large purple sac, which occupied the left hypochondriac, lumbar, and iliac regions. Removal of the stomach, spleen, pancreas, and intestines exposed a large aneurysm of the lowest part of the thoracic and upper part of the abdominal aorta. The upper limit was at the level of the disc between the ninth and tenth dorsal vertebræ and the lower at the lower edge of the first lumbar vertebræ; the upper part of the aneurysm was covered by the upward displaced diaphragm. The superior mesenteric artery came off about half an inch above the lower limit, and the cœliac axis about an inch higher. There was no interference with the circulation in these vessels. The posterior boundary was formed by the partially eroded vertebræ of the tenth, eleventh, and twelfth dorsal and the first lumbar vertebræ. The twelfth rib on the left side was also eroded for about an inch. There were masses of clot to the right and left outside the true sac of the aneurysm of two different dates. The earlier lay to the right and behind the aorta, and was much decolourised, and where it touched the aorta partly organised. This was continuous behind the aorta, with a second mass consisting of currant jelly clot and liquid blood, which lay to the left, forming the purple sac above mentioned. The boundaries of this second mass were the peritoneum with the descending colon in front, the posterior wall of the abdomen behind, the left suprarenal and kidney with the left ilium externally, and the vertebral column, mesenteric attachments, and third part of the duodenum toward the middle line. Below these were prolongations under Poupart's ligament and into the left spermatic cord. The aneurysm was compressed between these masses into a cavity whose horizontal section was roughly S-shaped. The only opening in the neighbourhood of the old clot was in the posterior wall of the aneurysm, in its lower part, slightly to the left of the middle line, but the whole of the left wall was very friable. No trace of the sympathetic could be detected around the aneurysm or in the clot. The eleventh and twelfth dorsal and first lumbar nerves were exposed, but there was no evidence of gross lesion to their structures.

BURTON-ON-TRENT INFIRMARY.

A CASE OF CÆSAREAN SECTION.

(Under the care of Mr. P. B. MASON.)

THE mortality after Cæsarean section varies greatly in different sets of statistics, and this may be in part at least attributable to the fact that while some gynæcologists employ the method before the commencement of labour others use it only after determined attempts have been made to extract the child *per vias naturales*. When Cæsarean section is undertaken before or shortly after the commencement of labour, with full antiseptic precautions and with adequate assistance, the mortality should be very low—not exceeding 5 per cent.—and the results of the operation are then comparable with those following alternative methods of treatment. For the notes of the case we are indebted to Dr. J. P. Sparks, house surgeon.

A woman, forty years of age, was admitted to the Burton Infirmary on Aug. 9th, 1897, suffering from cancer of the vagina and the os uteri, complicated by pregnancy. The patient stated that for about a year she had suffered from repeated losses of blood at intermittent periods, and on being examined by her medical attendant she had been found to be suffering from an epithelioma in the region of the urethra which extended up the anterior vaginal wall and involved the anterior lip of the os uteri. Becoming pregnant soon afterwards, she was seen by Mr. Mason in consultation and it was decided to wait till labour came on and then to perform Cæsarean section. Labour commenced on Sept. 26th, and the operation was performed in the afternoon by Mr. Mason. A long incision was made from a point one inch above the umbilicus to the pubes, and the uterus immediately presented in the wound. The placental site having been ascertained to be on the posterior wall, the uterus was opened by an incision about five inches long commencing at the fundus. The uterus was well pressed forward and the broad ligaments were compressed on each side by assistants. The child and placenta were then rapidly extracted, the uterus was closed with deep and superficial sutures of silk, and the wound of the abdominal wall was sewn up. The operation lasted one and a quarter hours and the patient did not lose more than four ounces of blood. Convalescence was uninterrupted and the patient left the hospital on Oct. 17th. The child is alive and well.

ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

A CASE OF HÆMATOSALPINX.

(Under the care of Dr. THOMAS OLIVER.)

THOUGH it is extremely probable that a large number of cases that have been described as examples of hæmatosalpinx have really been instances of tubal pregnancy, yet there can be no doubt that cases do occur, as in the one recorded below, in which the collection of blood in the Fallopian tube is in no way connected with impregnation. It is true that there is some difficulty in accounting for the accumulation of blood in the tube though it is very probable that during menstruation there is effusion of blood from the mucous membrane of the tube as well as from the wall of the uterus, and possibly some cases are explicable as due to reflux from the uterus. In practically all cases of hæmatosalpinx the blood remains fluid for a very long time.

An unmarried woman, aged twenty-one years, who resided at home, was admitted into the Royal Infirmary, Newcastle-upon-Tyne, under the care of Dr. Oliver, on May 25th, 1897, complaining of severe pain in the right iliac region and lower half of the abdomen of four years' duration. There was nothing in her family or previous history that calls for comment beyond the fact that she first menstruated at the age of sixteen years, that she had since been very irregular, occasionally passing six or seven months without becoming unwell, and that when she did menstruate the flow continued for four or five days, but was scanty and always very painful. She remembered well her first menstruation, for it was attended by much pain, which radiated outwards towards the right iliac region and down the right thigh, lasting for several hours. She was unable to pass urine. With each recurrence of menstruation there had been both difficult and painful micturition. So severe was the dysmenorrhœa that she was completely unfitted at her menstrual periods for domestic work. During her intermenstrual periods she had frequently noticed, if she lifted anything heavy or strained herself in any way, that the abdominal pain was intensified.

The patient was sparely built, but when free from pain she took her food well and was apparently of a cheerful disposition. On examination the heart and lungs were found to be healthy. The abdomen was somewhat retracted, but with gentle palpation there could be felt a hard and somewhat resistant swelling situated a little above, and to the right of, the pubes and extending for a short distance outwards along Poupart's ligament. It was painful on pressure. Examining her under chloroform Dr. Oliver found that the vagina was small and narrow, the hymen intact, the cervix uteri small, and that the sound readily passed into the uterus in a distinctly left direction. Lying to the right of the uterus, occupying the whole of the *cul-de-sac* and projecting into the vagina, could be felt a rounded, smooth, tense swelling which gave a distinct sense of fluctuation when caught between the hand placed on the abdomen and the fingers in the vagina. The cyst was not very moveable; it lay close up to the uterus, but was evidently not a part of it. Dr. Oliver considered it to be a small ovarian cyst or a distended tube. On June 11th his surgical colleague, Mr. Williamson, opened the abdomen, and after separating the omentum, which at places was adherent to the wall of the abdomen, he found in the right iliac region close to the uterus a large elongated mass which was very adherent. The adhesions were separated, but as some of them were very vascular they had to be ligatured. The cyst, which proved to be a large Fallopian tube, was ligatured close to the uterus and divided. Several adhesions around the ovary were similarly dealt with and the ovary itself was removed. The Fallopian tube thus removed was in shape and size not unlike an ordinary sheep's horn; it tapered to a fine point towards its uterine extremity and was round and blunted at its fimbriated end. It was greatly distended and on section

was found to be filled with blood, grumous and chocolate in colour, not coagulated, and exactly resembling the fluid that escapes from the uterus in a case of suppressed menstruation when an imperforate hymen is incised. Careful examination of the interior of the tube and of its contained blood failed to reveal anything of the nature of old or recent clot, embryo, membranes, or anything suggesting the probability of the case being one of tubal gestation. The walls of the Fallopian tube were thickened, hard, and resistant, while the mucous membrane, instead of being thinned and atrophied as might have been expected, was swollen.

Remarks by Dr. OLIVER.—I am inclined to agree with Cullingworth[1] both when he says that the majority of cases of hæmatosalpinx are tubal pregnancies and also that there is a considerable number of cases where the Fallopian tube is found distended with blood, forming a sausage-shaped tumour, and where the evidence of it having originated as a tubal pregnancy is inconclusive. The most careful search frequently fails to detect an embryo, chorionic villi, or any other indisputable product of conception. In the tube removed from my patient there is not the slightest indication of there having been a tubal pregnancy. There was apparently a congenital narrowing of its uterine end which had caused retention, and as the character of the fluid was exactly the same as that observed in retained menses it seems to me that at her periods the girl had also menstruated into her right Fallopian tube, and the reason why she had been able to continue doing this for such a length of time was the irregularity and lengthened absence of the flow. I offer no opinion as to how far Bandl is correct when he says that normally the uterine end of the Fallopian tube is patulous during menstruation. If the statement is really one of fact then abnormal constriction would favour hæmatosalpinx. The distal extremity of the tube in my patient was rounded, occluded, and adherent. Formerly patent it is more than likely that blood escaped from the tube by this orifice and set up peritonitis, hence the explanation of the extensive adhesions of this end of the tube and the ovary. I admit, with Lawson Tait, Bandl, and others, that during menstruation blood oozes from the tubal mucous membrane and finds its way into the uterus. If it cannot escape as in the case just recorded on account of congenital narrowing of the uterine end and the distal extremity has become occluded, the blood must accumulate in and distend the tube, causing considerable pain owing to peristaltic contraction of the tube and stretching of the peritubal inflammatory adhesions. The physical signs of hæmatosalpinx can scarcely be differentiated from those of pyosalpinx. It is only after abdominal exploration and section of the tube that an accurate diagnosis in most cases can be made, but if the uterine end of the Fallopian tube is not completely occluded, then just as in similar cases of pyosalpinx where the physician is aided in his diagnosis by the history of sudden discharges of quantities of fœtid pus shortly after menstruation, so in hæmatosalpinx the sudden discharge of a quantity of disintegrated blood after a menstrual period would suggest, but would not be absolutely conclusive of, the existence of hæmatosalpinx. Where hæmatosalpinx is suspected and the tube is enlarged and adherent, where the patient is the subject of severe and recurrent pain, medicinal treatment can be of no avail beyond being palliative. The proper treatment is abdominal section and removal of the occluded tube.

[1] THE LANCET, June 19th, 1897.

ROYAL INSTITUTION.—Professor Oliver Lodge, F.R.S., will deliver the first of a course of six Christmas lectures (specially adapted to young people) on the Principles of the Electric Telegraph at the Royal Institution on Dec. 28th. The remaining lectures will be given on Dec. 30th, 1897, and Jan. 1st, 4th, 6th, and 8th, 1898.

ADULTERATION PROSECUTIONS.—At Pontypridd Police Court on Nov. 10th a grocer was fined £2, including costs, for selling half a pint of cotton seed oil as olive oil.—At Exeter Police Court on Nov. 12th a dairyman was fined £12, including costs, for selling adulterated milk. The inspector found three cans in the man's cart, one of which contained scalded milk, another raw milk, and the third water with a little milk added. Two samples of milk purchased by a customer proved to be diluted, one having 13 per cent. and the other 16 per cent. of added water.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Spontaneous Fracture of Gall stones.—Congenital Malformations of the Heart and Thoracic Veins.—Developmental Malformation in Fishes.—Intussusception of the Vermiform Process.—Exhibition of Specimens.

A MEETING of this society was held on Nov. 16th, the President Dr. PAYNE, being in the chair.

Dr. ROLLESTON exhibited a specimen of Spontaneous Fracture of a Gall-stone in the Gall-bladder. The specimen was taken from the gall-bladder of a woman, aged forty-six years, who died from spheroidal-celled carcinoma of the gall-bladder. The gall-bladder was enlarged and contained mucus unstained by bile, numerous small (cholesterin) calculi, and three larger calculi. The largest resembled in size and shape the terminal phalanx of the thumb, the two ends appearing to have been broken across; of the other two larger calculi one was smooth and like a pebble, the other showed a surface which might have fitted one of the ends of the largest calculi, but owing to attrition the surfaces did not fit accurately. Fracture had evidently taken place a considerable time before death. There was no history either of a blow or of violent contractions during biliary colic. The cause of spontaneous fracture of gall-stones might be explained on the same lines as spontaneous fracture of vesical calculi, as expounded by Dr. Ord, Dr. Plowright, and Mr. Hurry Fenwick. Dr. Ord first suggested expansion of the nucleus which led to bursting of the calculus like a bomb; in another case he found it due to mycelial growth passing between the layers and levering off the outer zones. Naunyn pointed out that biliary calculi are normally penetrated by cholesterin which re-crystallises inside the calculi and Chauffard showed that calculi may be invaded by micro-organisms. The possibility of cancerous invasion of the gall-bladder as a direct cause was considered but hardly appeared probable. In a case of spontaneous fracture of a gall-stone recorded by the late Dr. Hadden there was no growth in the liver or gall-bladder.

Dr. JAMES CALVERT also showed a specimen of Spontaneous Fracture of a Gall-stone taken from a man who died at the age of sixty-seven years from carcinoma of the prostate with secondary growths in the liver. There were no symptoms of the presence of gall-stones during life. The gall-bladder was not enlarged but its walls were thickened by chronic inflammation and it was full of broken gall-stones. The gall-bladder contained no bile or even mucus. With hardly an exception the gall-stones were in fragments, showing yellow crusts of cholesterin, and they were drier than usual. The fractures had evidently occurred at different times, the edges of some fragments being sharp, while those of others were worn smooth. Some of the stones showed fissures preliminary to fracture. Dr. Calvert thought that the fractures had been brought about by cicatricial contraction of the inflamed gall-bladder and that the stones had probably become unusually brittle owing to the absence of bile and mucus from the gall-bladder just as they become brittle and are apt to crack spontaneously when they are allowed to dry in the air.—Dr. WILLIAM HUNTER said that he had no personal experience of these cases. He asked whether the breaking up of the calculi might have been caused by the scaling off of the superficial layers of cholesterin.—Mr. SHATTOCK said that the view of Dr. Ord appeared to be correct that breaking down of a calculus was due to alteration of the colloid material distributed throughout the substance of the stone. He asked whether in Dr. Rolleston's case there was any admission of bile into the gall-bladder. If bile were excluded, and mucus, which had a different specific gravity, alone bathed the stone, alterations would be produced in the colloid material which would favour disintegration of the calculus. He did not agree with Dr. Plowright's views which had been quoted that the fissures were caused by the invasion of salts. He thought that the fissures occurred first and that the salts were deposited in them afterwards.—Dr. VOELCKER did not feel convinced that the specimen shown by Dr. Rolleston was actually one of spontaneous fracture. There was no satisfactory explanation of the frequent occurrence of many small calculi, sometimes faceted, sometimes not, along with one or two large ones;

but unless they were definitely fractured and the surfaces could be shown to fit he would hesitate to put them down to spontaneous fracture. There was an undoubted specimen of spontaneous fracture in the Museum of the Middlesex Hospital. The portions were passed per rectum, having evidently escaped from the gall-bladder by ulceration into the large intestine. When fitted together they formed a perfect cast of the gall-bladder.—Dr. ROLLESTON, in reply, said that in his case the gall-bladder contained mucus but no bile. He thought that there could be no doubt that there had been fracture.

Dr. FREYBERGER read notes and exhibited specimens and drawings from a boy, eleven months old, in whom the following Congenital Anomalies of the Heart and Thoracic Veins were present: (1) two descending venæ cavæ each with an azygos vein of its own, the left cava entering the coronary sinus; (2) congenital stenosis of the pulmonary artery; (3) absence of the membranous part of the intraventricular septum; (4) origin of the aorta from both ventricles; (5) patent foramen ovale; and (6) patent ductus arteriosus. Death occurred from meningitis. There was no trace of any fœtal endocarditis and there was no clubbing of the fingers. The lungs were well developed. The following conclusions must be drawn: 1. The absence of any signs of fœtal endocarditis shows that the malformation of the heart is due to an arrest of development at some time during the second month of fœtal life, a view which is further supported by the concomitant anomaly of the thoracic veins. 2. The full development of the lungs and the slight cyanosis during life shows that there must have been a sufficient circulation of blood in them although the pulmonary orifice is almost impassable. 3. This circulation of blood has taken place through the stenosed pulmonary orifice, the Botallian duct, and the anterior and posterior bronchial arteries. These arteries form more or less wide anastomoses with the capillaries of the pulmonary artery, and might in this case have helped to supplement the pulmonary circulation.—The PRESIDENT remarked that one of the commonest of all abnormalities of the heart was the perforate septum ventriculorum. It was just possible that this was known to the early anatomists such as Galen who believed that the blood in adults passed through the septum ventriculorum to get from the right side of the heart to the left.

Dr. FREYBERGER also exhibited a specimen of Rupture of an Aortic Aneurysm into the pericardial sac. The patient, a man aged forty-two years, was admitted in a moribund state into the Great Northern Central Hospital on Oct 27th, 1897. He had never been ill before, was a total abstainer, and had never had syphilis. He had been shovelling coal when he gave a cry and fainted. He was at once taken to the hospital where he arrived perfectly unconscious, deathly pale, and covered with clammy perspiration. His respiration was frequent and shallow, the heart sounds were feeble, and the pulse was not percepitble. Death occurred an hour after the accident. At the necropsy the pericardium was found to contain ten ounces of fluid blood and eleven ounces of dark blood-clot, completely concealing the heart. The heart was small and flabby; there was much sub-pericardial fat. The ventricles were empty; there were patches of atheroma on the aortic and mitral valves; the valves were competent. Above the left coronary orifice there was an irregular oval opening in the wall of the aorta three-quarters of an inch by half an inch which lead into an aneurysmal sac of the size of a walnut. The sac was situated at the insertion of the aorta into the left ventricle and was adherent to the left auricle. The hæmorrhage had occurred through an irregular opening in the sac of the aneurysm at a place near this adhesion. All the other organs were natural.

Mr. C. G. SELIGMANN showed a specimen of Arrest of Development in the Upper Jaw of a Pike. Instead of being almost as long as the lower, and slightly concave upwards, the upper jaw was short and markedly convex from the crown of the head to the tip of the nose. The ethmo-vomerine plate, although somewhat shortened and bent downwards, was well formed for the greater part of its length and bore the usual array of teeth. The maxillæ were normal, but the pre-maxillæ, which should bear the whole series of lateral teeth, were small and bore only a few diminutive teeth. The prefrontal bones were also much reduced in size. There were similar specimens in the Museum of the Royal College of Surgeons of England. They were examples of different stages of the same defect, arrest of development of the elements corresponding to the fronto-nasal process. The slighter cases, such as that exhibited, probably correspond to the defective development of the pre-maxillæ which in man gives rise to hare-lip.

Mr. SELIGMANN also showed a specimen of Supernumerary Fin in a Trout caught in the River Itchen. The fin was composed of ten soft fin rays, and was situated in the mid-dorsal line, just behind the head, and 5 cm. in front of the dorsal fin. All the other fins were present and normal. Mr. Seligmann described the development of the fin in other fishes, and thought it probable that in the specimen shown the supernumerary fin represented an anterior part of an originally longer dorsal fin and that the extra fin was homologous with the spiny rays of the gastrosteidæ, the tentacles of lophius, and the anterior spiny fin of many other fishes.

Mr. HERBERT WATERHOUSE showed a specimen of Intussusception of the Vermiform Process. Several days before the child was admitted to the Victoria Hospital for Children signs of intussusception were present and the child was examined under an anæsthetic. While being manipulated the tumour suddenly disappeared. A few days after the symptoms again became urgent, and an enema having failed to give relief Mr. Waterhouse performed laparotomy. He at once came on an intussusception, which was easily reduced, and then found another which was in the region of the cæcum. Part of it was reduced with some difficulty, but there was a residue which could not be replaced which proved to be the everted appendix. The cæcum was excised and anastomosis effected with the aid of Murphy's button but the child did not recover from the shock. At the necropsy the appendix was found everted into the lumen of the cæcum, only five-eighths of an inch being left outside. It formed a mass the size of a cherry, which could not be reduced. It was not cut into, but he passed a needle through it and could not find any evidence of a concretion.—Mr. D'ARCY POWER said that in the last operation which he had performed for intussusception he had found on unravelling the bowel a commencing invagination of the base of the appendix, which was probably antecedent in his case and in that under the care of Mr. Waterhouse to the invagination of the ileum.

The following card specimens were exhibited:—

Mr. P. FURNIVALL: Symmetrical Rodent Ulcer of the Face.

Dr. ROLLESTON: Rodent Ulcer of the Umbilicus.

Mr. W. G. SPENCER: Squamous Epithelial Cancer of the Upper Jaw from a young man twenty years of age.

Mr. T. STRANGEWAYS PIGG: (1) Symmetrical Rodent Ulcer from the Groins; and (2) Lymphatic Glands and Infarct of the Spleen from a case of Plague.

Dr. HECTOR MACKENZIE: (1) Cystic Kidney from a man fifty-two years of age; and (2) Perforating Ulcer at the Pylorus, associated with great hypertrophy of the gastric wall.

Dr. VOELCKER: Chronic Interstitial Nephritis with formation of cysts.

Mr. CECIL BEADLES: (1) Ulcerative Colitis; and (2) Fibrous Laminæ on the Pleura.

Dr. W. HUNTER: Gumma of the Liver.

CLINICAL SOCIETY OF LONDON.

Calot's Operation for the Immediate Reduction of Angular Deformity of the Spine.

A MEETING of this society was held on Nov. 12th, the President, Mr. LANGTON, being in the chair.

Mr. A. H. TUBBY and Mr. ROBERT JONES (Liverpool) read a paper communicating the results of a first series of twenty-five cases of Angular Curvature of the Spine treated by Immediate Reduction after Calot's method. Although at first they were sceptical as to the safety of the operation, since it seemed to contravene all received ideas about the treatment of the condition, the results witnessed by them at the cliniques of Calot and Rédard induced them to give the method a trial. The present series contained the cases operated on by them up to the end of September, 1897. They said that the examination of many cases under anæsthetics had led them to believe that cases of angular deformity could be grouped into three classes. 1 Those in which little or no ankylosis has taken place and reduction can be effected with great ease. These are most commonly met with in the young. 2. Those in which more or less union has taken place. These require

extension to be maintained for several minutes with firm pressure on the curvature. 3. Those in which firm bony ankylosis has taken place. Interference with the cases in the last group was unjustifiable, but those in the first two were suitable for immediate reduction. They considered that the procedure had the following advantages: the greater ease of fixing the spine in a good position after it had been straightened; the avoidance of deformity of the chest with compression of the thoracic and abdominal viscera; and lastly, æsthetic reasons as to appearance. The probable dangers were discussed, and it was shown that although paralysis would naturally be dreaded as a result it had not occurred in any of their cases, but that, on the contrary, five of their cases affected with varying degrees of paralysis had commenced to recover immediately after the operation and had steadily improved. Another risk was the dissemination of tubercle, and this they thought was less likely to occur than in such operations as erasion and excision of the large joints, in which more or less healthy bony surfaces were apt to be inoculated with tubercle. In no case did the formation of an abscess follow the operation. As to the permanency of the reduction, they stated that in some it remained permanent, but that in others slight relapse took place requiring a repetition of the operation. The duration of the necessary after-treatment was from two to three years, a greater time than had been recommended by French surgeons. The details of the operation were described and illustrated by lantern slides. Extension might be applied by having several assistants to hold the child face downwards while extension was made from the legs and the head, which latter might be grasped by the head-piece of Sayre's suspension apparatus. It was very necessary that the extension should be equable and not jerky. Mr. Tubby and Mr. Jones had devised a form of rack which acted very well but took some time to adjust. After the operation the patient was placed on a modified double Thomas's splint with a very full curve, so as to over extend the spine. This was preferable to the cumbersome plaster cuirass which was recommended by Calot. The cases operated on had not been specially selected, all cases being taken unless there were strong reasons to the contrary. In the series of twenty-five cases operated on there had been one death, six days after the operation. Death occurred unexpectedly with acute abdominal symptoms, but at the necropsy these symptoms were not satisfactorily accounted for, nothing being found in the abdomen abnormal except tuberculous lymphatic glands. Of the twenty-five cases nine were males and sixteen females, and their ages ranged from eighteen months to twenty-two years. The deformity had been present from six months to six years. Five had paralysis, and all improved, apparently as a direct result of the operation. One had a discharging sinus in the groin at the time of the operation. As to the position of the curves, two were cervico-dorsal, eighteen were dorsal, and five were dorso-lumbar. Ten cases were reduced at the first sitting and fifteen partially. Of the ten complete reductions two remained so for from three to four months afterwards, and the slight recurrence which took place in eight was speedily overcome by a second operation. Of the fifteen partial reductions two required two subsequent operations and one three. The remainder were greatly improved, and the prominences were reduced to about one-third or less of their original size. The cases which Mr. Tubby and Mr. Jones deemed unsuitable for the method of treatment were those where the disease was of long standing, where ankylosis had occurred, and where there was considerable deformity of the chest; those in which active tuberculous disease was present elsewhere; and those in which abscesses had occurred. The cases which were held to be suitable were (1) those occurring in young subjects in which the angle was a changing one, the disease of short duration, and firm ankylosis absent; (2) those in which the disease was locally active; (3) those in which no visceral complications were present; and (4) cases of paraplegia unrelieved by ordinary treatment, as a more reasonable proceeding than laminectomy, which often fails to relieve the pressure point. With the reservations mentioned Mr. Tubby and Mr. Jones thought that an angle which is increasing more rapidly than the growth rate will explain can with tolerable facility and without undue risk be rectified. They felt, however, that the method was one which, if care was not taken to select suitable cases, might lead to disastrous results.

Dr. CALOT (Berck-sur-Mer), speaking in French, said that he did not admit any other ground for intervention in cases of Pott's disease than that of correcting the deformity. To endeavour to treat the paralysis or abscess by ordinary surgical measures meant the transforming of a "closed" disease into an open one, changing it, in other words, from a condition in which there are 95 per cent. of cures into one in which the mortality is very high. The attitude of a prudent surgeon should be the same as in overcoming deformities in the hip or knee. Dr. Calot said that in his first series of 37 cases there was not a single instance of any untoward symptom after the operation. Rédard read notes of 32 cases without an accident before the Moscow Congress; Hoffe, of Strassburg, 36 without any mishap; and Jones, of Liverpool, has now performed the operation 60 times with only 1 death. On the other hand, Brun and Jenesco lost a child under chloroform, Malherbe 1 from respiratory embarrassment, and from the same cause Bilhaut lost 3 out of 50 cases, and Dr. Calot himself 2 out of close upon 300 cases. Out of 600 cases of which notes had been forwarded to him by various surgeons paralysis followed the operation in 3. But it must be borne in mind that in Pott's disease paralytic complications occur in about one-fifth of the cases. As a set-off against this eight cases of paraplegia existing at the time of the operation were relieved by it. Dr. Calot considered that these results were as favourable as the results of any other surgical operation had been at the time of its introduction, and no doubt future statistics would show even better results, as it seemed likely that it would be possible to dispense with an anæsthetic, thus materially diminishing the risks. The cases must be selected. Unsuitable cases are cachectic children, those with active chest mischief, those with spinal abscesses or sinuses, and those with a hump of long standing which does not yield to a traction of from 50 to 80 kilogrammes. Dr. Calot then passed on to consider the treatment of long-standing cases in which there was ankylosed deformity. Scharr had taught twenty-three years ago that consolidation in cases of Pott's disease left to themselves takes place either by simple union of the posterior parts of the column (false ankylosis), or by union of the healthy bodies of the vertebræ as well as of the posterior parts (true ankylosis). It may occasionally happen that union of the bodies takes place without union of the posterior parts, but this must be exceptional. As a rule the resistance to reduction in the more severe cases is in the posterior bony union. In such as are reduced by strong traction (80 kilogrammes) a large number of bony bands are broken through, as shown by the crepitus, which is sometimes felt during reduction. He rarely used greater traction than 80 kilogrammes, but had done so in exceptional cases, such as that of a Swedish girl aged thirteen years. He was convinced that it was possible, however, to reduce even old-standing curvatures, but he thought that it was better to lay the bony adhesions bare before breaking them down. If they were only posterior they could be broken down by a trifling operation. If bony union also existed anteriorly the surgeon might begin by breaking down the posterior adhesions, and then, except in persons over twenty, traction alone would suffice to reduce the deformity. Should this prove fruitless he would know that true bony ankylosis had taken place. Even then, however, he thought that the resources of surgery were not exhausted. It would still be possible to break down these anterior adhesions by a second operation, attacking them laterally, taking care not to enter the spinal canal. It would suffice to weaken the resistance of the anterior callus, which would then yield to firm manipulation. In very old curvatures interference was perhaps undesirable. The formation of abscess, generalised tuberculosis, and meningitis which would be expected to follow this treatment, Dr. Calot considered less to be feared than after operations on tuberculous knees. In the latter operation it is impossible to avoid breaking down bony processes themselves infiltrated with tubercle, whereas in the extension of the spine the anterior segments are raised without rupture of the trabeculæ and the pressure resulting from the replacement of the posterior parts bears on bony structures which are themselves quite healthy. Out of upwards of 300 cases he had only seen four instances of tuberculous broncho-pneumonia or meningitis occurring in the six months following reduction. Since tuberculous processes favour destruction rather than repair it would be thought that relapse would be certain to occur, but experience showed that the objection had no practical value, and that the spine undergoes

consolidation after reduction just as it does when left to itself. Skiagraphs show clearly that union in some cases takes place by anterior union, and this may give rise to some protuberance. Or, as Dr. Calot had observed twice after death and in ten instances in the living subject, it may take place by posterior union. In four out of twelve cases this has appeared to be sufficient, but in seven it was insufficient in the sense that an insufficient number of vertebræ were joined together. In default of union it is always in the power of the surgeon to bring it about artificially by denuding the laminæ at the parts where they are in contact, and uniting the periosteum over the site of the proposed junction. When dealing with a very pronounced curvature the reduction may be attempted in stages at several weeks' interval, being careful not to wait so long that firm union has occurred in a partially corrected attitude. His rule was to provoke union between at least two vertebræ more than appear necessary to ensure the stability of the union. He had performed this operation on ten occasions, and his cases showed that posterior union alone was sufficient to maintain the proper position of the vertebral column. Dr. Calot described the plaster apparatus which he employs. It includes the whole of the trunk, along with the neck, the base of the head, chin, and occiput. In applying the cervical part he makes use of a suspension apparatus. The application of the plaster casing does not take more than a few minutes. At the Moscow Congress Dr. Calot reduced the deformity and applied the plaster support in six cases without occupying more than seventy-five minutes. If the child is not inconvenienced, and there is no rise of temperature, the jacket is left on for from three to five months, and it may be renewed several times. It may be necessary to make a window in the case opposite the curvature in order to dress any sore that may have formed there. The duration of the treatment when in an active stage is that of the disease itself—several years; but otherwise the treatment need not take more than three or four months. Should any recurrence of the deformity take place he would advise artificial union and, indeed, was almost disposed to recommend this procedure as a routine or prophylactic measure.

Mr. R. W. MURRAY (Liverpool) said that since August, 1897, he had operated on fourteen patients whose ages varied from two and a half to nine years. The duration of the deformity varied from a few months to four years. Most were in good general health, but one had a small psoas abscess and another was paraplegic. Three had the curvature in the cervical region, nine in the dorsal, and two in the lumbar. The operations were uneventful except in the case of the paraplegic child, whose breathing was seriously embarrassed for a time. His paralysis now, two months later, is improving. The immediate results, on the whole, have been satisfactory, but in one of the cervical cases weakness of the lower limbs has supervened, probably owing to the operation, and in one of the first cases operated on the child has developed general tuberculosis. One patient died a short time after the operation from broncho-pneumonia, which a necropsy showed to be non-tuberculous and probably quite unconnected with the operation. It was true that the expected dangers did not occur, but what was the prospect as to the future of these cases both as to the correction of the deformity and the cure of the disease? Mr. Murray doubted very much whether this operation would effect complete and permanent cure of the deformity. The vertebræ are many of them destroyed and the interval left required to be filled by something strong enough to bear the pressure, but in tuberculous bones there was very little tendency to repair. Failing this bony formation there must be either a return of the hump or a life-long recourse to instrumental support. If the hump were filled by ligamentous tissue there would not only be a hump, but a "wobbly" hump, which would entirely incapacitate a mechanic from work, which is not the case with a rigid hump. He intended to wait to see the ultimate result in these cases before he performed the operation again, but at present he was inclined to take a somewhat unfavourable view of their future. Mr. Murray showed the spine from the patient who died from pneumonia two months after the operation, which exhibited well the great gap left to be filled up anteriorly.

The discussion was adjourned to the next meeting of the society.

OPHTHALMOLOGICAL SOCIETY.

Heredity and the Development of Myopia.—Potassium Permanganate in Ophthalmia.—Cataract Extraction.—Pseudo-Glioma due to Choroido-Retinitis Secondary to Meningitis.—Case of Albuminuric Retinitis.

AN ordinary meeting of this society was held on Nov. 11th, Mr. G. A. BERRY, Vice-president, being in the chair.

Mr. WRAY read a paper on Heredity and the Development of Myopia. He began by stating that some observers found a family history in as many as 60 per cent. of their cases of myopia. On the assumption that one-fourth of the hereditary tendencies are from each parent, and one-sixteenth from each grandparent, it was plain that heredity predisposition would appear more and more in the etiology of myopia. Mr. Wray questioned the expediency of using the term "acquired myopia" lightly, as no case could legitimately be called "acquired" unless ancestral myopia could be disproved, which he contended was impossible. He next submitted that authorities repudiated the possibility of the transmission of acquired structural peculiarities, and experimental evidence was quoted to the effect that the removal of an eye in rabbits during many successive generations failed to cause the birth of one-eyed offspring. He conceded the transmissibility of ordinary myopia, and then stated that there was no relation between the sum of the myopia of myopic parents and the amount that would appear in the offspring, and when the highest grades had been found the parental myopia was invariably confined to one parent. Since Fukala's operation had come into vogue Mr. Wray had given special care to the investigation of the antecedents of such patients, and found in a considerable number of cases that the child with very high myopia had suffered from protracted infantile marasmus, whilst the brothers and sisters who escaped had not. He further stated that out of 126 cases of myopia over 10 D he had not found one instance in which parent and child were both subject to an equal or approximately equal amount. The existence of the highest grade of myopia in one eye only made it exceedingly probable that other influences acted as powerfully as marasmus in the predisposed. Since such grave disproportions never arose in the limbs during their development, it was necessary to consider the difference in their development, and this was to be found in the way in which the vitreous was formed by the passage of mesoblastic elements into the secondary optic vesicle. Mr. Wray suggested the possibility of hypo-inclusion being the basis of hypermetropia and excessive inclusion the cause of myopia. He thought that this theory would explain the variation in the age at which myopia appears, and the phenomena of stationary and progressive hypermetropia and myopia, as well as numerous other points in the pathology of myopia.

Mr. SYDNEY STEPHENSON communicated particulars of a case of Purulent Ophthalmia in an infant where the frequent use of a strong solution of potassium permanganate had given rise to a deposition of manganese dioxide upon the cornea. The mark, which was of coal-black colour, disappeared a few days after the use of the solution had been discontinued.

Surgeon-Captain HERBERT, I.M.S., communicated a paper on Cataract Extraction, in which he said that the conditions of operating were unfavourable in India, and he had found it impossible to exclude infection till he employed strong perchloride (1 in 2300) as a routine antiseptic. The lotion was used freely to the face, lids, and conjunctiva, then cocaine was instilled, the lids being kept closed to prevent the drying of the epithelium, and during the operation the surface of the eyeball was kept moist by the constant dropping of boiled saline solution. Since the adoption of this method he had performed 281 extractions; there had been no suppurations and no iritis severe enough to affect vision.—A discussion on the value of asepsis as opposed to antisepsis followed, in which Mr. BERRY, Mr. NETTLESHIP, Mr. HILL, Mr. J. GRIFFITH, Mr. LAWFORD, and Mr. CARGILL took part.

Mr. L. V. CARGILL described a case of Pseudo-glioma due to Choroido-retinitis Secondary to Meningitis in a male infant, with good family history and born at full term, who was perfectly healthy until three months old, when he suddenly developed meningitis. A fortnight later the left eye was noticed to be affected with pseudo-glioma. Two months afterwards hydrocephalus was developing and was

associated with retraction of the head. Right optic papillitis was discovered, whilst the left membrana tympani was found to be perforated, there having previously been slight purulent discharges from the left ear. The hydrocephalus increased, the left eye underwent shrinking, whilst the right eye remained unaffected except for atrophy of the optic disc. The child died about ten months after the first onset of illness. A post-mortem examination was not obtained.—Mr. TREACHER COLLINS had observed from pathological examination that these cases were more often retinitis than choroiditis. The course of the affection was from the throat by the Eustachian tube, middle ear, meninges, and optic nerve to the eye.

Dr. ARNOLD LAWSON and Dr. G. A. SUTHERLAND described a case of Albuminuric Retinitis. A girl, aged twelve years, was brought to the hospital on Oct. 29th suffering from headache and vomiting. Examination showed the presence of albumin in the urine and albuminuric retinitis in both eyes. The history of her illness consisted of intermittent attacks of headache during the last ten months. These had recently become much worse and were frequently accompanied by vomiting and great prostration. The past history was excellent. She had never had scarlet fever or any cardiac affection. She was always a ravenous eater and especially fond of meat. The family history was good except for phthisis on the mother's side. The patient was bright and intelligent and showed no lethargy. There was a diffused heaving impulse over the precordial region. The apex beat was three-quarters of an inch outside the nipple line in the fifth space. The heart's first sound at the apex was rough and accompanied by a short blowing murmur. The second sound was accentuated at the base; the sounds were clear and ringing, the second being accentuated. Arterial pulsation was visible in the large vessels of the neck. The pulse was small, regular, and of high tension, and there appeared to be some thickening of the vessel walls. The urine was acid and cloudy and its specific gravity was 1010. Albumin was present in considerable quantities. Microscopically, casts, for the most part hyaline, but also a few epithelial or fatty, were found. The fundus in each eye presented the usual changes due to albuminuric retinitis in a typical and advanced form. The case appeared to be one of primary chronic interstitial nephritis occurring at an unusually early age. The symptoms were precisely similar to those met with in adults suffering from this disease. The cause was obscure. Possibly a long course of over-feeding might have so affected the blood as to induce irritative changes in the kidney. No record of any case of albuminuric retinitis occurring at so early an age could be found. One case at fifteen years had been recorded by Mr. Benson in 1883.—Mr. NETTLESHIP called to mind two cases of albuminuric retinitis in children. One was in a boy, the details of whose case he could not recall, but who was under observation for a year; the other was in a little girl, who was said to have recently had Bright's disease. In the latter case there was great pallor of the optic nerve and old retinal changes with much impairment of vision.—Dr. BREUER said that Dr. Bull had published a series of cases, one of which was in a boy aged five years. In every case in which a post-mortem examination had been made interstitial and not glomerular nephritis had been found.—Mr. LAWFORD had recently seen a boy, aged seventeen years, with albuminuric retinitis; he also had chronic interstitial nephritis; he improved materially.—Mr. HOLMES SPICER had recently been asked to see a child at the Children's Hospital who had all the signs of acute nephritis; on examining the eyes there were a few small retinal hæmorrhages, but no large masses of exudation.

HUNTERIAN SOCIETY.

Medical Hæmorrhage.—Pruritus Vulvæ.

AN ordinary meeting of this society was held at the London Institution on Nov. 10th, the President, Dr. G. E. HERMAN, being in the chair.

Dr. F. J SMITH read a paper on Medical Hæmorrhage which is published in another part of our present issue.—Mr. COTMAN referred to the value of a large dose of sulphate of magnesia given at the commencement of a case of hæmoptysis and spoke of the value of rest as procured by opium.—Mr. GEORGE B. STEVENS said that in treatment it was often necessary to be empirical, and referred to the importance of diagnosis as a guide to treatment. He instanced a case where it was difficult to diagnose the source of the hæmorrhage which turned out to be due to a polypus nasi. He considered the old method of treatment by pilula plumbi cum opio as still the best, but he generally gave an acid mixture with ergot and digitalis.—Mr. BOWKETT said he had found benefit from ergot in large doses. In gastric hæmorrhages rest and ice were useful, whilst in most hæmorrhages turpentine by the mouth was valuable. Antimony often succeeds in pulmonary hæmorrhages when other remedies fail.—Dr. RUTTER stated that he considered the ice-bag of no use and spoke highly of the value of calcium chloride as a hæmostatic.—Dr. FORTESCUE FOX believed that the ice-bag in hæmorrhages from the stomach or intestine allayed vascular excitement. Hazeline in large doses was also useful in his experience, and he advocated venesection in cerebral hæmorrhage.—Mr. A. H. TUBBY inquired as to the reason for giving iodide of potassium and agreed with Dr. Smith's remarks on the use of ergot.—Dr. HINGSTON FOX did not use ergot for medical hæmorrhages, but used, not only iodide of potassium, but alkalies to quiet the circulation, and quoted a case of copious hæmorrhage due apparently to simple increased arterial tension without evidence of kidney lesion, and said the man was still alive.—Dr. WICKHAM still believed in the value of large doses of ergot.—Dr. ARTHUR DAVIES stated his belief in the administration of ergot in sufficiently large doses. He also referred to the value of sulphate of magnesia given frequently. He emphasised the extreme value of position in severe hæmorrhages, whether pulmonary or cerebral, and the importance of turning the patient on the affected side, as pointed out by Dr. Bowles.—Dr. SMITH replied.

Dr. HERMAN then read a paper on Pruritus Vulvæ. He first stated that though pruritus is a common complaint, yet it is important, as it causes great local suffering and indirectly, by preventing sleep, injury to health. The causes of pruritus were divided into five classes. 1. Adventitious, due to pediculi, dirt, worms, and pessaries. 2. Skin diseases—eczema, herpes, furuncle, follicular urticaria, and diabetic dermatitis, which has been shown to be due to neither saccharine urine nor sweat. 3. Irritating discharges—gonorrhœa, cancer, and senile endometritis—and also cases where no visible change is seen. 4. Venous congestion, due to heart, lung, or liver disease. 5. Nervous. In Class 1 he advised unguentum hydrargyri ammoniatum for pediculi, absolute cleanliness, and changing of material of pessary. Class 2: Eczema usually affects fat elderly women and those who are pregnant; possibly it depends on a parasitic micro-organism; in diabetes it is especially frequent. Treatment in the former consists in warm nip-baths with liquor carbonis detergens added and powdering the parts with boric acid. In the latter general treatment is required. Herpes zoster is not amenable to any kind of treatment. Follicular pruritus is best treated by squeezing out the contents of the follicles and applying a germicide lotion such as corrosive sublimate, 1 in 2000. Urticaria is very rare. Class 3: Irritating discharges should be treated by sedative and antiseptic washes to the vagina, followed by sedative powders to the vulva, such as a saturated solution of borax and dermatol powder and boric acid. When these fail to give success a strong carbolic acid lotion, 1 in 7, will in some cases completely cure or give great relief. Class 4: Pruritus is found in pregnancy and in corpulent persons with varicose veins, and those suffering from heart, lung, or liver disease. The treatment is practically the same as in Class 3. In Class 5 pruritus in aged women is sometimes a symptom of degenerative changes in the nervous system, and treatment usually fails.

BRITISH GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Adjourned Discussion on Dysmenorrhœa.

A MEETING of this society was held on Nov. 11th Mr. MAYO ROBSON, President, being in the chair.

Mr. TENISON COLLINS (Cardiff) showed a Myomatous Uterus removed by pan-hysterectomy four days previously. The patient had so far made good progress.—

Mr. F. BOWREMAN JESSETT showed two Myomatous Uteri removed by pan-hysterectomy. In one of them an interstitial myoma had caused such absorption of uterine tissue over it as to have burst into the abdominal cavity. This specimen also illustrated a method of preserving specimens by which their colour was retained, introduced by Mr. H. G. Plimmer, pathologist to the Cancer Hospital. The fluid was made up as follows: Formalin six parts, sodium chloride one part, sodium sulphate two parts, magnesium sulphate two parts, water one hundred parts.—Mr. O'CALLAGHAN showed a Myomatous Uterus removed by the clamp method.—In the discussion on these specimens, the PRESIDENT said there were two important questions in dealing with every case of myoma: (1) Should they operate at all? and (2) if so, by what method? Many cases of hard fibroid did not require operation; but in those of rapid growth, with serious symptoms and in those that grew after the menopause removal was the only course. As to method, he was quite satisfied with a form of intra-peritoneal hysterectomy in which, after securing the vessels and suturing the peritoneum, the stump was brought up to the wound and fixed there, shut off from the peritoneal cavity, and covered by the skin.—Dr. GRANVILLE BANTOCK observed that he was not wedded to any one method; but most of his experience had been with the serre-nœud, and this had given him the best results. When there was malignant disease involving the cervix and when it was not possible to form a pedicle he removed the whole uterus. In the case of small fibroids it was a mistake to remove the uterus; many of them could be enucleated. Moreover, fibroids did not interfere with conception, pregnancy, or labour. In a recent gynæcological text-book hysterectomy was described as an easy and safe operation. He wished to protest against such teaching; in all cases it was an operation of some difficulty, and should only be undertaken by a skilled and experienced operator.—Dr. C. H. F. ROUTH had seen many cases in which an operation had been advised by men of eminence and in which he had successfully counselled non-interference; these patients were alive now. Even when pregnancy was associated with fibroids the child would displace the tumour and delivery would be safely accomplished. He had seen many cases of fibroids, but in not one, as far as he could remember, had there been any growth after the menopause.—Dr. PURCELL said that there were cases in which it was imperative that the whole organ should be removed—viz., in cases where the myoma presented malignant characters, and for these pan-hysterectomy was the only possible operation.—Mr. BOWREMAN JESSETT, in his reply, laid stress on the disadvantages of the clamp method. On the question of myoma with pregnancy he did not at all agree with Dr. Routh; there were many cases in which it would be very negligent not to operate. Péan had shown that cases not operated upon had a very high mortality, and when abortion occurred the mortality was even higher.—Mr. COLLINS and Mr. O'CALLAGHAN also replied.

Dr. SHAW MACKENZIE showed some slides prepared from Curettings in cases of Suspected Malignant Disease. He regarded them as instances of hæmorrhagic endometritis.

In the adjourned discussion on Dysmenorrhœa Dr. MACNAUGHTON-JONES briefly reviewed the Causes of Dysmenorrhœa, and said he would confine himself to the "congestive" variety, described by Matthews Duncan as "obstructive." It was associated with flexions and underdevelopment of the uterus, and neurasthenia. But even here there was often a difficulty, as the patient had violent dysmenorrhœa evidently attributable to the uterus, yet on examination the uterus sometimes appeared normal, while the patient's general health was good. He did not believe in simple dilatation for dysmenorrhœa; it might relieve, but it would not cure; nor did he believe in tents. He had not tried Dudley's operation, but he had had very good results from the kind of treatment mentioned by Dr Heywood Smith at the last meeting—viz., division of the cervix with scissors; incision of the internal os with a Sims's knife; dilatation; and the introduction of a small glass stem for a few days.—Dr. HEBBERT SNOW regarded dysmenorrhœa as due simply to imperfect development. A course of massage, shower-baths, and proper feeding would do a great deal; whilst he believed that if women left off the wearing of stays, or used only such as were of suitable form, much less would be heard about dysmenorrhœa.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Removal of the Scapula for Sarcoma.—Acute Diffuse Myelitis.—Chronic Intestinal Obstruction.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Nov. 5th, Dr. BRAITHWAITE, President, being in the chair.

Mr. LITTLEWOOD read the notes of a case of Removal of the Scapula for Sarcoma, in which he had operated by placing the patient in the prone position and turning inwards a large semilunar flap. The patient, a man, aged fifty-two years, who was operated upon on Aug. 16th, was shown. He had a fair amount of movement in the new joint, and could get his hand up to his mouth and to the opposite shoulder. The specimen was shown. The growth involved nearly all the bone and infiltrated some of the muscles. The whole of the bone was removed with the exception of the acromion. The growth was a fibro-sarcoma in which some of the cells were arranged in alveolar spaces.—Mr. MOYNIHAN remarked that he had lately had to excise a scapula for malignant disease in which there was only two months' history of growth; recurrence took place in a few weeks and the clavicle was removed; the disease then spread internally and the patient died in six weeks.

Dr. CAMPBELL, of Bradford, read notes of two cases of Acute Diffuse Myelitis. They both presented a fairly definite train of symptoms which, although in many respects they corresponded with those met with in the closely allied Landry's paralysis, yet in other respects were quite characteristic of acute diffuse myelitis. In both cases there was a rapidly spreading loss of power, of sensation, of both superficial and deep reflexes, and of control of the sphincters. In one the temperature was considerably raised and the course was rapid, whilst in the other (except when rigors occurred) the temperature was not materially raised and the course was somewhat protracted. After describing the cases in detail Dr. Campbell discussed the pathology of the disease and its relationship to Landry's paralysis and to acute disseminated myelitis, especially referring to the probable causal connexion of micro-organisms with all three diseases.—Dr. BRAITHWAITE, Dr. CHURTON, Dr. LEECH, Dr. GRIFFITH, Dr. BARRS Dr. BAMPTON, Dr. EDDISON, Dr. WRIGHT, and Mr. LAWFORD KNAGGS took part in the discussion, and Dr. CAMPBELL replied.

Mr. LITTLEWOOD showed: 1. A patient on whom he had operated for Poplitial Aneurysm by removal of the aneurysmal portion of the vessel. The patient, a man aged twenty-five years, was operated on June 15th, 1897. The wound was quite healed when dressed on June 25th. He got up on June 29th, left the infirmary eighteen days after the operation, and has since been doing his usual work. He had a great deal of pain before the operation necessitating the administration of morphia, but has had no pain since. The specimen was shown. 2. A specimen of a Testicle removed from an adult. The testicle had never descended into the scrotum and the spermatic cord was completely twisted.

Mr. E. W. SELBY read a paper on a case of Chronic Intestinal Obstruction due to a Tumour of the Ileum. The patient, who was forty-five years of age, was suddenly attacked with epigastric pain and vomiting in December, 1895, and from that date until May, 1897, the symptoms recurred with increasing frequency, abdominal distension and almost complete constipation succeeding. Her weight declined from 11st. to 7st. On June 21st a special distension of an intestinal coil in the left iliac region was visible where peristalsis of the gut appeared to cease. She was admitted into the Doncaster Infirmary, and on July 6th an incision was made in the left iliac region and the abdominal cavity explored with the hand. The small intestine being followed upwards from its juncture with the cæcum, a firm substance could be felt a few feet up the ileum. The suspicious coil was drawn out of the wound and incised longitudinally, when a tumour was discovered attached to the mesenteric border by a short, broad pedicle. This was transfixed and ligatured, and the tumour, an ovoid mass of uniform consistence, measuring in various diameters 2 in., 1½ in., and ¾ in., was removed. The growth was a fibroma or a fibro-myoma.—Dr. BARRS considered that in a large number of cases of intestinal obstruction abdominal percussion was useless, and in some cases absolutely misleading. He believed that visible

peristalsis always meant chronic obstruction and persistent vomiting severe disease.—Mr. LITTLEWOOD disagreed with Dr. Barrs as to the chronicity of disease where visible peristalsis was present, and spoke of two acute cases where this symptom was noticed.—Dr. EDDISON agreed with the last speaker, believing that peristalsis is frequently seen in acute cases where the amount of fat in the abdominal walls is small.

The following cases, pathological specimens, &c., were exhibited:—

Dr. GORDON SHARP: Specimens of the Mescal Button.

Dr. BARRS: (1) Ophthalmoplegia Externa, with proptosis; (2) Abdominal Aneurysm; and (3) Perforation of Intestine (enteric).

Dr. TREVELYAN: (1) A case of supposed Syphilitic Spastic Paralysis, and (2) a specimen of Multiple Tuberculous Tumour of the Brain.

Dr. HELLIER: (1) Adeno-fibroma Mammæ, with interesting secondary changes; (2) Ovarian Cyst, strangulated by twisted pedicle; and (3) Congenital Defect in Hand (patient shown).

Mr. H. S. WALKER showed a Child, nine months old, with a Malformation of the Right Auricle and Temporal Bone. The auricle was shrivelled and deformed in the usual manner but there was no meatus. The ear was dissected forwards, and there was not a mark or a depression in the temporal bone indicating any attempt at the formation of an auditory meatus. The pharyngeal end of the Eustachian tube was normal. The child was too young to notice a tuning fork. Probably as the Eustachian tube was normal there would be a more or less perfectly formed middle ear.

Mr. MOYNIHAN: (1) Endarteritis Obliterans, Subclavian Aneurysm on the Right Side; and (2) Sarcoma of the Scapula.

Mr. WARD: (1) Urinary Organs from a patient who was four times cut for stone; (2) A Case of Gastrostomy by Franks' Method; and (3) Renal Calculus removed by Lumbar Nephrectomy.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens.—Midwifery.—Club-foot.

A MEETING of the above society was held on Nov. 2nd, Dr. ARNOLD EVANS, President, being in the chair.

Dr. CRAWFORD and Dr. ROBSON gave a microscopical demonstration of Living Typhoid Bacilli, and showed the changes which occur in Widal's reaction; they also exhibited Cultures of the Organism on Various Media.

Mr. FARROW showed the Heart of an Infant the victim of Congenital Heart Disease.

Dr. METCALFE read notes on 100 cases of Midwifery. Adverting to the paper of Dr. Sinclair at the Montreal meeting of the British Medical Association on "Injuries of Parturition" Dr. Metcalfe expressed the opinion that Dr. Sinclair had exaggerated the frequency of injuries arising from the more extended use of forceps by modern practitioners, and asserted that in large numbers of cases much needless suffering is avoided by the early use of forceps, and that in the hands of educated practitioners there is no corresponding tale of injury inflicted by such interference. He showed that he applied the forceps in 30 per cent. of the cases he related, that no mother had died, and only two children were born dead, and further that neither in the case of mothers nor children was there any serious injury the result of parturition.—A considerable amount of discussion followed, in which Mr. MERCER, Dr. BELL, Dr. KERR, Dr. GOYDER, Mr. HORROCKS, and Dr. RABAGLIATI took part, the general opinion being that 30 per cent. was too high a proportion for instrumental interference in midwifery cases.

Mr. HORROCKS read a paper on Club-foot, its Causation, Pathology, and Treatment. He first urged the importance of an accurate knowledge of the anatomy of the parts and showed a dissection of a child's foot the subject of Talipes Equino-varus. Mr. Horrocks limited his remarks to the condition of congenital equino-varus. Under the heading of causation Mr. Horrocks disagreed with the views that changes in the nerves or spinal cord or arrested development of the bones of the foot are in any considerable proportion of cases the prime factors in producing the deformity, but adhered to the oldest explanation—viz.: the mechanical one of the assumption of faulty or constrained positions of the limbs during intra-uterine life. Faulty positions and limitations of movement may be brought about in several ways: (1) by abdominal or pelvic growths outside the uterus; (2) by tumours of the uterine walls; (3) by limited growth of the uterus itself during pregnancy; (4) by deficient liquor amnii; (5) by some tumour of the child itself—e.g., spina bifida; and (6) by locking of the fœtal limbs. When from any of these causes the limbs assume a faulty or fixed position *in utero* the joints tend to become stiff by the formation of fibrous tissue around them and also by alteration of the cartilage, which is not in proper apposition with the corresponding articular surface. Mr. Horrocks then described in detail the anatomical changes which occur in talipes equino-varus, drawing particular attention to the displacement of the scaphoid bone, which is thrown inwards, and articulates with only the inner part of the head of the astragalus. It may articulate with the internal malleolus of the tibia. He thought that the radiograph was not of much service in estimating the degree of alteration of the bones, as there is so much cartilage present which gives only an indistinct outline. As to treatment, in mild cases the deformity can be remedied by simple manipulation and subsequent retention in good position by means of a plaster bandage or splint. The manipulations should be long-continued and systematic, care being taken to move one joint while the others are fixed. A wrench may be used to give greater power in manipulations. In the more severe cases in which the deformity cannot be reduced by hand division of the tendons and ligaments concerned or removal of portions of bone may be required before the foot can be brought into a proper position and retained there by suitable apparatus. Tenotomy is required when the foot cannot be flexed to a right angle and the inner ankle is not prominent. The tibiales anticus and posticus are first divided and then after further manipulation the tendo Achillis. If the adduction is marked the adductor pollicis and plantar fascia are to be divided, but the greatest result is given by division of the calcaneo-scaphoid ligaments. The foot is then fixed in the best possible position by plaster-of-Paris. Removal of the cuboid was practised in two cases with good results. In one case where there was very marked shortening of the inner border of the foot the metatarsal bone of the great toe was partly excised and this was followed by improvement. Mr. Horrocks insisted again that the treatment must be continuous until the child can walk in order that relapse may be prevented.—Dr. WOOD, Dr. RABAGLIATI, Mr. MIALL, and Mr. MORTON offered remarks, and Mr. HORROCKS replied.

LIVERPOOL MEDICAL INSTITUTION.

Malignancy of Villous Tumours.—Exhibition of Specimens.

A MEETING of the Pathological and Microscopical Sections was held on Nov. 11th, Mr. F. T. PAUL being in the chair.

Dr. ABRAM showed Cultures obtained from a case of Mouse Favus. He considered the parasite to be identical with that of human favus, and suggested that to multiply favus varieties alike clinically and bacteriologically was unnecessary.

Mr. PAUL read a short paper on the Relative Malignancy of Villous Tumours of the Bladder and Rectum. He quoted several cases tending to show that this growth had an amount of malignancy about equivalent to that of the recurrent fibroid and that its natural tendency was ultimately to end in carcinoma. He thought better results would be obtained clinically if the surgeon had in mind that he was dealing with a mildly malignant and not a simple papilloma.

Dr. R. BUCHANAN showed specimens and contributed a note, illustrated by lantern slides, on a Peculiar Growth in the Submucous Layer of the Walls of the Vas Deferens in the Human Adult. The exact nature of the structure was doubtful and opinions were requested from members present. The growth was about the size of a pin's head, lobulated, and microscopically showed a capsule of fine fibrous tissue and a dense collection of round cells. The structure within the capsule was tubular in character, the tubules being lined by more or less cubical cells. Within the tubules large epithelioid cells were present showing signs of degeneration.

Professor SHERRINGTON showed specimens to illustrate the Modes of Ending of Sensorial Nerves in Voluntary Muscle. He had in 1893 succeeded in demonstrating that the voluntary muscles receive a large number of sensory nerve

fibres. In the nerve trunks supplying most of the limb-muscles about one-third of the nerve fibres are sensory. He now brought forward specimens to demonstrate the actual modes of termination of these sensory nerve fibres in muscles. He stated that, as the microscopic specimens laid before the meeting clearly showed, there are at least three different kinds of sensorial end organs in the muscles. The first of these is the *muscle spindle*, which had now been proved to be sensorial, although at first supposed to be an embryonic focus or a pathological new formation. Specimens were demonstrated which showed (1) that nerve fibres from the spinal root ganglia enter and end in these spindles; and (2) that the terminal arborisations of these nerve fibres are much larger than, and quite different from, motor end plates, and are distributed to the peculiar intrafusal muscle fibres at the equator of each muscle spindle. The second form of sensorial ending is the Golgi tendon organ. Preparations exhibiting the terminal arborisations of the nerve fibres in these end organs were exhibited confirming the original description by Golgi. The third form is the Pacinian corpuscle. These, as previously described by Professor Sherrington, are found in two situations in muscle—(1) near septa or aponeuroses; and (2) embedded in the thickness of the muscle thickness proper. Some are large, others small, and possess few lamellæ in their capsule. The nerve fibre to the Pacinian corpuscle is always a large myelinate fibre. Muscles in which they are observed are muscles of the limbs and larynx. Search for them in the eye muscles has not discovered them there. Professor Sherrington drew attention to the interesting fact that the muscle fibres inside the spindles, unlike the ordinary fibres of the muscle, do not undergo degeneration after section of the whole nerve of the muscle. Specimens were shown in which the muscle fibres inside the spindles were not shrunken in size or degenerate after the nerve of the muscle had been severed for nearly three years, no regeneration or reunion of the nerve having been allowed. The capsule of the spindle appeared a little thickened and the periaxial space a little reduced, but the intrafusal muscle fibres were undegenerate, although the muscle elsewhere was highly degenerate. Professor Sherrington found in this support for a view he had previously urged—namely, that the intrafusal muscle fibres belong to the "red" variety of muscle, which it is well known atrophies on section much more slowly than does the large "white" variety of muscle fibre. Every muscle, as Grützner and others have shown, is composed of both white and red fibres, and the latter remain comparatively unatrophied for a long time after nerve section. The communication was illustrated by micro-photograms.

The following specimens were exhibited:—

Mr. NEWBOLT: Sarcoma of the Femur.

Dr. BARENDT: Rodent Ulcer and Cirrhosis of the Liver in a Young Child.

Mr. SKELLETT SMITH: (1) Symmetrical Affection of the Finger Nails; (2) Large Hernia reaching down to the Knees; and (3) Exudation from Plastic Bronchitis.

Dr. GIVEN: Skiagrams of a Bullet in the Finger.

Dr. ABRAM: Plasmodium Malariæ, Crescent Form.

Mr. R. W. MURRAY: Spinal Column Two Months after Forcible Straightening for Pott's Caries.

Mr. THELWALL THOMAS: Trichocephalus Dispar found in the Vermiform Appendix removed for Recurring Appendicitis.

Professor BOYCE, Mr. NEWBOLT, Mr. PAUL, Dr. LESLIE ROBERTS, Dr. WARRINGTON, Dr. CAMPBELL, Dr. ABRAM, and Dr. BUCHANAN discussed some points raised.

PATHOLOGICAL SOCIETY OF MANCHESTER.

The Means by which Milk becomes Pathogenic.—Suppuration occurring in a Simple Fracture.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Nov. 10th, Mr. C. E. RICHMOND, President, being in the chair.

Professor SHERIDAN DELÉPINE read an interesting paper on the Means by which Milk becomes Pathogenic. He first referred to the influence of keeping and of temperature.[1] The influence of time he considered to be well shown by the number of specimens remaining good even at high temperature when the milk had been kept only half a day. The powerful influence of temperature on milk was still more evident, for in every category the number of good specimens was almost inversely proportional to the height of the temperature. When the clear relation existing between time of keeping *plus* temperature and the noxious properties of a certain number of samples of milk was contrasted with the ambiguous results obtained when an attempt was made to connect these noxious properties with disease of the udder it was difficult not to feel convinced that infection of the milk outside the udder and the conditions under which it is kept are the most important factors causing it to acquire at times pathogenic properties. By comparing the results of the bacteriological examination of milk which had produced outbreaks of diarrhœa and the results of his investigations, Professor Delépine found that the same bacillus was present in both cases—a bacillus resembling closely the bacillus coli communis, if not identical with it.

Mr. W. P. STOCKS related the case of a girl, aged two years and nine months, who sustained a simple greenstick fracture of the ulna which followed the usual course for two weeks and then took on acute suppurative inflammatory action leading to infection of the lower epiphysis about two weeks later and slight necrosis at the seat of fracture. No source could be found for the pyogenic cocci. Mr. Stocks referred to Kocher's experiments on the production of osteomyelitis in injured bones when the animals were fed on large quantities of putrid material, but in his case the intestinal tract appeared healthy.

Dr. JUDSON BURY showed a specimen of Aneurysm Involving the Upper Part of the Abdominal Aorta taken from a man aged thirty-nine years. Anteriorly it consisted of two rounded swellings, both above the cœliac axis; posteriorly it had ruptured behind the peritoneum, and the boundaries of the rupture consisted of eroded vertebræ (the last dorsal and first three lumbar) and retro-peritoneal tissue which was infiltrated with blood and laminated clot. The chief symptoms of the case had been rigidity of the spinal muscles in the lumbar region and severe pain and cutaneous hyperæsthesia in the back and along the distribution of the twelfth dorsal and first three lumbar roots. Pain in the back was probably the earliest symptom and began about four years before death. The patient was under observation during the last four months of his life, and in addition to the symptoms already mentioned there was a pulsating swelling in the left hypochondrium, and the pulsation could be felt behind, below, and over the last two ribs.

Mr. WESTMACOTT exhibited a specimen of Spinal Meningocele which he had removed from a child three months old. The tumour, measuring nine inches in circumference, was pedunculated and issued from the spinal column through the incomplete posterior arch of the atlas. There was no hydrocephalus before or after the operation. With Roentgen rays and a fluorescent screen the aperture in the arch of the atlas could be distinctly seen after the wound was healed.

Dr. FOTHERGILL referred to the Alleged Origin of Malignant New Growths from the Products of Conception.

The following card specimens were exhibited:—

Dr. ALCOCK: specimens of Fractured Bones in Camelus Dromedarius.

Dr. ARTHUR HELME: Uteri extirpated for (1) Fibromata; (2) Carcinoma of the Cervix; (3) Malignant Tumour of the Body; and (4) Hypertrophy and Procidentia.

Dr. KELYNACK: Carcinoma of the Gall-bladder.

Mr. HERBERT LUND: Murphy's Button *in situ* forty-eight hours after operation.

Dr. RAY: Drawings of Dissections of the Prostate Gland and the Base of the Bladder.

Mr. RICHMOND: Tumour of the Œsophagus.

Mr. PERCY STOCKS: (1) Ovarian Hernia; and (2) Hydrocele of Canal of Nuck.

Dr. E. S. YONGE: Micro preparations of Nasal and Laryngeal Specimens.

Mr. WOLSTENHOLME: Cysticercus Cellulosæ in Measly Pork.

[1] For a full account of this investigation see the Journal of Comparative Pathology, June and September, 1897.

MANCHESTER MEDICAL SOCIETY.

Amputation of the Upper Extremity.—The Appendices Epiploicæ.—Exhibition of Cases.

A MEETING of this society was held on Nov. 3rd, Dr. H. G. BROOKE, Vice-President, being in the chair.

MR. WHITEHEAD related the particulars of two successful cases of Amputation of the entire Upper Extremity.

MR. MONTGOMERY made a communication on the Relations of the Appendices Epiploicæ of the Sigmoid Flexure. It was shown that in the upper six or eight inches of the gut the appendices are always very much more developed on the right or mesial border of the untwisted bowel. With this fact in view the upper end of a loop drawn out in colotomy could always be distinguished from the lower, even though a twist existed. It was suggested that in colotomy for malignant disease the gut should be twisted on itself before fixation and the lower opening made the acting one. At the same time the mesenteric stitch should be passed through the abdominal wall well in the upper angle of the wound. This course would diminish the tendency to prolapse, and would give a better permanent opening with a minimum of exposed mucous surface.

DR. GARDNER read a paper on Vomiting.

MR. STANMORE BISHOP showed two male patients, aged respectively fifteen years and two years and ten months, upon whom Suprapubic Lithotomy with immediate Union of the Bladder and Abdominal Wall had been performed without drainage. He drew attention to the advantages of this method by which greater safety to the patient and immense decrease in the work required from the nurse are obtained

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Exhibition of Cases and Specimens.—Glandular Enlargements in the Neck.—President's Valedictory Address.—Election of Officers.

THE first meeting of this society for the winter was held on Nov. 3rd in the rooms of the Royal Scottish Society of Arts. The President, Dr. ARGYLL ROBERTSON, occupied the chair.

Professor ANNANDALE showed a male patient from whom he had removed the Larynx along with the Thyroid Gland and part of the Œsophagus. The larynx was almost stenosed by a malignant growth. He performed a preliminary tracheotomy, which required to be very low in position owing to the enlargement of the thyroid gland. He showed an ingenious arrangement for administering chloroform through the cannula a description of which appeared in THE LANCET of Nov. 6th, 1897, p. 1185. The patient seemed to be in remarkably good condition and was able himself to manipulate both the tracheotomy tube and an œsophageal tube, which had been used for feeding purposes.

Mr. A. G. MILLER showed a patient after Resection of the Ulnar Nerve. A portion of the nerve had been removed after a recurrent tumour of the arm had been excised on account of the nerve showing signs of being implicated. The gap thus left between the cut ends of the nerve was filled by splitting the end of the severed nerve longitudinally and turning one half of the nerve down and half of the lower segment of the nerve upwards. The operation was so successful that both sensation and motion had entirely returned. There was, however, a recurrence of the tumour growth.

Dr. ALLAN JAMIESON showed two cases of Lupus Vulgaris treated with Koch's new tuberculin with considerable benefit, a case of Lupus Erythematosus, and one of Dermatitis Herpetiformis.

Dr. ARGYLL ROBERTSON showed specimens under the microscope of Filaria Loa taken from the conjunctiva and other parts of the body.

Mr. CATHCART showed Fluid which had been removed from what had been diagnosed as an abscess close to the crest of the ilium, but which turned out to be a hydatid cyst.

Mr. A. G. MILLER read a paper on the Etiology and Treatment of Glandular Enlargements in the Neck. The object of this paper was to point out the importance of discovering and, if possible, removing the primary causes of glandular enlargement. He thought there were many varieties of glandular enlargement, but referred only to the simple, chronic, and the tuberculous form. He considered that it was only in the early stage that there was any difficulty in distinguishing between these conditions. He considered that simple adenitis might become tuberculous, and he spoke of this as the pre-tuberculous stage. Believing this he considered that many cases of tuberculous glands might have been prevented by a timely removal of a source of irritation. He then referred to the course of the lymphatics to various groups of glands and gave examples of some of these. Discussing causation he referred to predisposing causes such as age and constitution and exciting causes. Under the latter heading he considered the various points where organisms or their products could be absorbed. He considered that the maintenance of glandular affections was the result of the persistence of the exciting cause. He laid great stress upon the importance of shutting the door through which the infection entered. When glandular enlargements persisted after all apparent cause had disappeared or been removed the explanation was to be found in the existence of an irritating factor in the gland, which the gland could not destroy or expel, and that irritant he believed to be always tuberculous. In fact, he considered that if in these persistent glandular enlargements there was any doubt or difficulty as to their nature the probabilities were that they were tuberculous. His treatment was based upon these principles—the discovery and treatment of the primary seat of irritation—and if after that the glands continued to be enlarged he removed them.—Several of the members made remarks on the paper, and it was suggested that all cases of so-called chronic adenitis were tuberculous and showed giant-cells even if there were no areas of caseation.

The retiring PRESIDENT then delivered a valedictory oration in which he reviewed the work of the society during the time that he had occupied the chair, and made various suggestions regarding the future conduct of the society's meetings.

Dr. Batty Tuke was elected President and Dr. P. A. Young a Vice-President. Dr. Argyll Robertson, Dr. John Thomson, Dr. Michael Dewar, and Dr. Shaw McLaren were appointed to the council in place of four members whose time had expired. The treasurer, secretaries, and editor of the Transactions were reappointed.

FORFARSHIRE MEDICAL ASSOCIATION.

Hemiplegia.—Simple Manœuvres for General Gynæcological Practice.—Chronic Stenosis of the Large Intestine.—Exhibition of Specimens.

A MEETING of this society was held in University College, Dundee, on Nov. 4th, Dr. ALEXANDER CAMPBELL, President, being in the chair.

Dr. STALKER communicated a case of Hemiplegia with Atrophy of the Affected Side. The case was one in which some cerebral affection of an obscure kind had existed before the hemiplegic attack, and on the apparently sound side there was evidence of descending degeneration of the cord. The theory was advanced that the nutrition of the muscles may be associated with a certain amount of intact cerebral connexion—an amount that may be supplied in an ordinary hemiplegia through supplementary aid from the sound side of the brain. When this cannot be turned to account owing to previous lesion of the side atrophy may follow.—Dr. MCVICAR suggested that an explanation of the case might be found in a diagnosis of amyotrophic lateral sclerosis.

Dr. BUIST read a paper on Some Simple Manœuvres for General Gynæcological Practice.—Dr. GREIG and Dr. KYNOCH made some comments.

Dr. MACEWAN gave notes of the case of a woman who had had symptoms of Chronic Stenosis of the Large Intestine. On the occurrence of acute obstruction an exploratory abdominal incision had shown its site to be at the hepatic flexure. In the exhausted state of the patient it was deemed advisable simply to fix some bowel at the wound with a view to an artificial anus later, but an unexpected relief to the bowels which had followed had led him to return the bowel. Some months later a recurring obstruction was treated by the excision of from four to five inches of bowel at the hepatic flexure with the use of Murphy's button. The stricture was annular and was formed by a columnar-celled epithelioma.—Dr. GREIG asked whether it was not the case that with subsequent cœliotomies there was a greater tolerance of any handling. He condemned the use of Murphy's button or any like means, and advocated end-to-end suture.—Dr. MILLER, Dr. WHYTE, and Dr HALLEY also took part in the discussion.—Dr. MACEWAN, in reply, said that the Murphy's

button, though not without its disadvantages, might be used where rapidity of operation was required.

Dr. MCGILLIVRAY showed a patient with a Congenital Subluxation and Coloboma of the Lens.

The following pathological specimens were also exhibited:—

Dr. MACEWAN: (1) Sarcoma of the Ovary, and (2) Bronchoceles.

Dr. FRASER: (1) Tuberculous Spleen, Liver, and Lung; (2) Atheroma of the Aorta; and (3) Carcinoma of the Œsophagus, Stomach, and Liver.

Dr. KYNOCH: Compressed Fœtus.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Opening Address.—Suppurating Kidney.—Genito-urinary Organs from a Case of Imperforate Anus.—Osteo-arthropathy.

A MEETING of this section was held on Nov. 5th, Dr. J. M. PURSER the President, being in the chair.

The PRESIDENT delivered his opening address.

The Secretary (Dr. MCWEENEY), in the absence of Mr. J. S. M'ARDLE exhibited an enormous Suppurating Kidney which had been removed by Mr. M'Ardle some eight days previously by nephrectomy. It was riddled with abscesses, which differed in many respects from those met with in tuberculous disease, and microscopical examination of the material which came from them did not reveal the presence of tubercle bacilli; it did, however, reveal a considerable number of organisms, plate-cultivations of which on sugar-agar showed the cylinder of substratum quite broken up by the development of gas, which is exceedingly characteristic of bacillus coli, and as the result of this gas development, and the appearance on gelatin there could be no doubt that the micro-organism contained in the pus, and probably responsible for the condition of the kidney, was bacillus coli. Bacillus coli has a tendency to invade the organs of the body post mortem, but this kidney was removed during the life of the patient and bacillus coli was the only organism found in the pus. The patient (a female) was making a good recovery.

Dr. MCWEENEY, in the absence of Mr. A. J. THORNE exhibited the Genito-urinary Organs from a case of Imperforate Anus, showing persistent cloacal arrangement, bicornate uterus, and unilateral cystic degeneration of the kidney. The fœtus (a female) was rather small and appeared to be at about the end of the eighth or commencement of the ninth month. The left kidney possessed a ureter which was at first very thin and narrow, and then becoming swollen out into a tube as wide as the small intestine was lost upon the side of the left cornu of the uterus; the right kidney was reduced to a small hydronephrotic sac and its ureter was completely obliterated. The cloaca received the orifices of the bladder, rectum, and two uterine cornua, and was continued as a narrow tube directly into the vagina, opening externally between the two labia minora. Of the proctodæum there appeared to be no trace. The previous child had been born with the left hand amputated at the carpus.

Dr. O'CARROLL showed casts and microscopical sections from a case of mixed Tuberculosis and Carcinoma of one Lung in which pulmonary osteo-arthropathy was an early and well-marked phenomenon. The patient, aged forty-nine years at death, had been a year under observation in the Whitworth Hospital. The increase in the size of the extremities was easily distinguished from that of acromegaly by the characteristic shape and by the presence of bulbar terminal phalanges.—Dr. MCWEENEY, in referring to the microscopical sections of the lung, said that he had not been able to see anything which seemed to him to give evidence of tuberculosis.

NEW WORKHOUSE INFIRMARY FOR BATH.—At the meeting of the Bath board of guardians held on Nov. 10th it was resolved that a new workhouse infirmary should be erected in accordance with plans prepared which will be sent to the Local Government Board for approval. It is estimated that the cost will be £40,000.

Reviews and Notices of Books.

A System of Medicine. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., F.R.S., F.L.S., Regius Professor of Physic in the University of Cambridge. Vol. IV. London: Macmillan and Co. 1897. Demy 8vo, pp. 880. Thirty-one Illustrations, one Coloured Plate. Price 25*s.*

THIS volume is the fourth of the System of Medicine—or the fifth if the System of Gynæcology which appeared last year be included—and is the third that Professor Clifford Allbutt has already brought out in the present year. The rapidity with which this authoritative system is now coming out speaks highly for the energy of the editor and for the collaboration of his many writers. The leaps and bounds by which medicine is advancing and the natural desire that the reader has for the most up-to-date expression of opinion make it highly desirable that as little delay as possible should take place between the writing and the publication of contributions; it would be a lamentable thing for an author to find his article *passé* on the day that it sees the light. The life of a system of medicine can therefore be but a short one, and one of its chief functions is to mark the extent of contemporary knowledge in articles written by representative authorities on the special subjects. On having most satisfactorily achieved this consummation Professor Clifford Allbutt is to be warmly congratulated.

The present volume deals with the diseases of the liver, kidneys, and ductless glands, and enters on the consideration of the respiratory tract, the greater part of the latter section appearing here being devoted to the throat and nose. Dr. William Hunter has been entrusted with a large share of the section on Hepatic Disease and has done his work admirably. After giving in outline the salient points of its normal anatomy he proceeds to an account of the functions of the liver and their disorders; in in his systematic description of the bile and the factors influencing its excretion he prepares the ground for what he has to say later with regard to jaundice. He criticises Murchison's well-known views on lithæmia, and concludes that this condition is not due primarily to hepatic derangement, but is the result of functional disturbance or disease elsewhere. Active and passive congestion of the liver are satisfactorily dealt with, and then the much-discussed subject of jaundice is expounded in a lucid and remarkably able manner. As the outcome of an exhaustive essay on the general pathology of jaundice he concludes that all jaundice is hepatogenous and may be divided into: (1) jaundice with obstruction of a manifest character, and (2) toxæmic jaundice due to increased viscidity of the bile from intra-hepatic catarrh. Obstructive jaundice is described under various heads by other authors, but Dr. Hunter deals fully with toxæmic jaundice and with the allied diseases—Weil's disease and acute yellow atrophy, &c.

Tropical Abscess is from the pen of Dr. Andrew Davidson and is a valuable source of reference, his remarks on its etiology and relation to dysentery being fully supported by statistics. In this article, which is entitled "Suppurative Hepatitis," other forms of suppuration such as pylephlebitis are included. There is a thoroughly standard article on Amœbic Abscess of the Liver by Dr. Lafleur, which is full of the results of clinical experience and original investigation. In his account of Cirrhosis Dr. Herbert Hawkins has provided a compact and practical description of the disease and has not attempted to enter into all the numerous subdivisions of cirrhosis that have been differentiated from a pathologist's standpoint; it is not so much an encyclopædic source of reference as an article that will appeal to men busy in the practice of their profession. Dr. Hale White is the

author of useful contributions on Perihepatitis and Tumours of the Liver.

The diseases of the gall-bladder and bile-ducts are appropriately described by Mr. Mayo Robson under the headings of Cholangitis and Cholecystitis, Tumours, and Gall-stones. The pathology, symptoms, and treatment are described in a masterly fashion, the section of Cholelithiasis being especially valuable and authoritative. Dr. John Thomson collects into a compact form what is known of congenital obliteration of the bile-ducts and icterus of the newly born. In these articles on the biliary apparatus the editor has been successful in obtaining the collaboration of workers who have largely added to and systematised our knowledge on the subject. This is also the case with regard to the essay on Diseases of the Pancreas, by Dr. Reginald Fitz, of Boston, whose Middleton-Goldsmith lecture in 1889 on the various forms of acute pancreatitis is so well known. He describes acute and chronic pancreatitis, pancreatic hæmorrhage, calculi, cysts, and malignant disease in a way that renders his article a most valuable source of reference.

The section on Renal Diseases begins with a clear and useful excursus on the physiology and general pathology of the kidneys by Dr. J. Rose Bradford. The accounts of dropsy and uræmia are thoughtful and philosophic, pleasantly written, and, it need hardly be added, well abreast of contemporary science. Nephroptosis, by Professor Alexander Macalister, is an exhaustive description of floating kidney and is supplied with numerous bibliographical references. The medical diseases of the kidney, under the title of "Diseases of the Kidney characterised by Albuminuria," have been very successfully handled by Dr. W. H. Dickinson. This article is freely illustrated by statistics from St. George's Hospital and is rendered more complete by an account of albuminuric retinitis from the hand of Mr. R. Brudenell Carter. Three groups of kidney disease are described; the first includes tubal, diffuse, and glomerular nephritis, the second granular kidney, and the third lardaceous kidney. Written in scholarly and charming style this article is full of practical experience and research. The "Other Diseases of the Kidney" are surgical in nature and are discussed by Mr. Henry Morris.

The next division of this volume deals with the Ductless Glands and contains several valuable articles from Dr. W. M. Ord and Dr. Hector Mackenzie. These authors, in the first place, give a summary of the present position of physiological knowledge with regard to the thyroid gland, in which the recent researches on the parathyroid glands and on the chemistry of the thyroid are clearly set forth. Dr. W. M. Ord, whose name is so closely associated with the recognition of myxœdema, gives an account of this disease and in association with his son, Dr. W. W. Ord, deals with Sporadic Cretinism. Certainly one of the best and most interesting articles in the volume is that on Graves Disease, by Dr. W. M. Ord and Dr. Hector Mackenzie; it would be hard to over-estimate the amount of research and investigation that has contributed to the production of this encyclopædic and standard article.

Dr. H. D. Rolleston's article on Diseases of the Spleen demonstrates the trend of scientific inquiry and the progress it is making in unravelling the pathology of the organs concerned in hæmatopoiesis. Indeed, his is perhaps the first systematic exposition of splenic pathology that has been attempted, and it is almost entirely owing to the work of recent years. His contribution is highly interesting and instructive, the questions raised being discussed with impartiality, but in a critical spirit. He deals first with the effects of splenectomy in man, which he shows vary in the amount of disturbance exhibited according as to whether it be a healthy spleen that is removed—e.g., on account of injury—or whether the organ be more or less impared in its function by displacement or disease. In the latter case the disturbance is slight or *nil* owing to compensatory changes having already been established; in the former the effects may be marked and severe. Dr. Rolleston gives an excellent account of the spleen in bacterial infection and toxæmia, and shows that as regards the first-named it probably has no special protective power which "cannot be vicariously assumed by other organs such as the lymphatic glands." In discussing the part played by the spleen in anæmia he expresses the opinion that splenic anæmia is rather the result of a toxæmic condition than of splenic inadequacy. He shows that the spleen has no share in chlorosis, but that it may take part in the hæmolysis of pernicious anæmia. The general disquisition is followed by a description of the special pathology of the organ.

Dr. Rolleston also writes upon Addison's Disease, the pathology of which he discusses with marked ability and knowledge. He does full justice to the views advanced by others to explain the phenomena of this affection, and gradually leads up to the conclusion that the hypothesis of suprarenal inadequacy best accords with the facts. Thus the original surmise of Addison that the symptoms are to be accounted for by derangement of the suprarenal function finds confirmation in the latest teachings of science which attribute them to the effects of deficient production of the internal secretion of these glands, either by inducing a toxic state of the blood or by the general atony and apathy due to the absence of the stimulating influence of this secretion. The symptomatology, diagnosis, and treatment of Addison's disease are well described, considerable attention being paid under the last head to the recorded results of treatment by suprarenal extract.

Lymphadenoma or Hodgkin's Disease is carefully described by Dr. G. R. Murray who gives numerous references to the results and opinions of other writers on this difficult and rather confused subject.

It must be regretted that the only article which the editor has allowed himself to write is a very short one, viz., that on Scrofula; the surgical aspect of tuberculous adenitis of the neck is treated by his former colleague Mr. T. Pridgin Teale.

Sir Dyce Duckworth gives a dignified account of Obesity, in which he enters fully into the physiological and pathological aspects of the question. Heredity is an important factor in its causation so that there is a special diathetic condition at work, as definite in its course as a gouty or strumous disposition; the various forms of treatment are dealt with in well considered terms.

The number of the respiratory diseases included in this volume is comparatively small, being limited to those of the nose, pharynx and larynx. But there are three introductory articles, the first on the General Pathology of Respiratory Diseases by Dr. Ransome, F.R.S., is well illustrated by charts showing the movements of the chest wall under various conditions. The same author describes the treatment of asphyxia. The physical signs of pulmonary disease and the problems of the conduction of sound are elucidated by Dr. Hector Mackenzie.

Sir Felix Semon has arranged the valuable section on the Diseases of the Nose, Pharynx, and Larynx, which really forms a little system in itself. The other contributors are Dr. de Havilland Hall, who brings his experience as a general physician to bear on the throat affections of the specific fevers and has in addition given useful summaries of a number of diseases of the nose and throat, and Dr. Greville MacDonald, who writes on new growths, bone affections, and diseases of the accessory cavities of the nose. Sir Felix Semon and Dr. Watson Williams have together borne the brunt of the labour in this department, and we are indebted to them for authoritative articles on nasal neuroses, adenoid vegetations, syphilis, stenosis, and new growths, &c., of the

larynx and most of the important sections on the pharynx, including the diseases of the tonsil.

This brings to a conclusion the fourth volume of Professor Clifford Allbutt's System of Medicine and we have again to congratulate him on the continued success that has attended his arduous labours as editor.

Dictionary of National Biography. Edited by SIDNEY LEE. Vol. L.: Russen—Scobell. Pp. 456. Vol. LI.: Scoffin—Sheares. Pp. 463 London: Smith, Elder, and Co. 1897. Price 15*s.* each.

SHAKESPEARE is, no doubt, the most important figure in these two volumes. The biography of him is by Mr. Sidney Lee, the editor, and occupies fifty pages. Next in order of literary eminence comes Sir Walter Scott, the article on whom is by Mr. Leslie Stephen, and extends to twenty-six pages.

The biographies of medical men in the two volumes are fifty in number, not including, however, in this total the first Marquis of Hertford (1588–1660), who graduated B.A. at Oxford University in 1607, was created M.A. in 1636, and D.Med. in 1645. He was Chancellor of the University from 1643 to 1647, and again in 1660. William Rutty was born in London in 1687, graduated as M.D. at Cambridge University in 1719, was elected a Fellow of the College of Physicians of London in 1720, and delivered the Gulstonian Lectures in 1722. He held three of the lectureships at the Barber Surgeons' Hall—namely, the Osteology Lectureship in 1721, the Viscera Lectureship in 1724, and the Muscular Lectureship in 1728. He became second secretary of the Royal Society in 1727, and died in 1730. William Saunders was born in Banff in 1743 and graduated as M.D. at Edinburgh University in 1765, after which he removed to London. He was admitted a Licentiate of the College of Physicians of London in 1769, was elected a Fellow in 1790, was a Censor on four occasions, and delivered the Gulstonian Lectures in 1792. "He was probably the first English physician to observe that in some forms of cirrhosis, then called scirrhosity, the liver became enlarged and afterwards contracted." He delivered the Harveian Oration in 1796, in which he praises the recent discovery of the cause of Devonshire colic (a form of lead poisoning) by Sir George Baker. From 1770 to 1802 he was a physician to Guy's Hospital. In 1793 he was elected a Fellow of the Royal Society, and in 1807 was appointed physician to the Prince Regent. In 1805 he was chairman of a meeting which led to the formation of the existing Royal Medical and Chirurgical Society, and he was its first President. He retired from practice in 1814 and died at Enfield in 1817. Isaac Schomberg was born in Germany in 1714, his father being a medical man who removed to London about 1720. He commenced to practise medicine at an early age, not having any English qualification, and was consequently in 1746–47 summoned before the President and Censors of the College of Physicians to present himself for examination as a Licentiate, but declined the invitation. In 1747 he was entered at Trinity College, Cambridge, and in 1749 he obtained by Royal mandate the degree of M.D. from the University. In 1747 he was by order of the College of Physicians of London interdicted from practice and a protracted and expensive litigation ensued. He was, however, admitted as a Licentiate in 1765, was dated a Fellow in 1771, and was Censor in 1773 and 1778. He died in 1780. Edward James Seymour was born in 1796, graduated as M.D. at Cambridge University in 1826, and was admitted a Fellow of the College of Physicians of London in 1827. At the College he subsequently held the posts of Gulstonian Lecturer in 1829, Censor in 1830, Croonian Lecturer in 1831, and Consiliarius in 1836. From 1831 to 1839 he was a metropolitan commissioner in lunacy. He published several works and died in 1866. Charles Scarburgh was born in London in 1616, graduated as M.D. at Oxford University in 1646 and at Cambridge in 1660, was elected a Fellow of the College of Physicians of London in 1650, and was Censor three times. He was a friend of Harvey, who bequeathed to him some articles, and whom he succeeded as Lumleian Lecturer in 1656. He was physician to Charles II., James II., and Queen Mary. He was knighted in 1669 and was one of the original members of the Royal Society. He died in February, 1693–4. John Rutherford was born in Selkirkshire in 1695, studied medicine in London, Leyden, and Paris, and graduated as M.D. at Rheims in 1719. In 1721 he settled in Edinburgh, and in 1726 was appointed to the chair of Practice of Medicine in the University, where he delivered lectures in Latin until 1765, when he resigned. In 1748 he was granted permission to give a course of clinical lectures in the Royal Infirmary, and in this way was laid the foundation of the clinical teaching for which Edinburgh afterwards became so celebrated. His eldest daughter was the mother of Sir Walter Scott. He died in 1779. His son, Daniel Rutherford, born in 1749, took the degree of M.D. at Edinburgh University in 1772, his inaugural dissertation being, "De aere fixo dicto aut mephitico." This tract owed its importance to the distinction, clearly established in it, between carbonic acid gas and nitrogen. Joseph Priestley had published a memoir on the same subject six months previously, but his exposition is less methodical and precise. Rutherford became a Fellow of the Royal College of Physicians of Edinburgh in 1777, and was President of the College from 1796 to 1798. He was appointed Professor of Botany in the university in 1786, and died in 1819. Nathanael St. André (1680–1776), a native of Switzerland, came to England and was placed with a surgeon of eminence, who made him an anatomist. He practised as a surgeon, and his knowledge of German induced George I. to appoint him "Anatomist to the Royal Household," but it is probable that he was an unqualified practitioner. In 1726 he became involved in the imposture of Mary Tofts, of Godalming, who professed to be delivered of rabbits. St. André avowed his belief in the woman's statements, but the fraud was exposed by Dr. Douglas and Sir Richard Manningham, M.D.

William Rutherford Sanders was born in 1828, received his early education in Edinburgh, subsequently studied medicine there and graduated M.D. at the university in 1849, obtaining a gold medal for his thesis on the Anatomy of the Spleen. After two years spent in Paris and Heidelberg he returned to Edinburgh, and while temporarily occupying the position of pathologist in the Royal Infirmary in 1852 he studied certain degenerations (afterwards called amyloid), particularly as affecting the liver and spleen. In 1853 he was appointed conservator of the Museum of the Royal College of Surgeons of Edinburgh. From 1855 onwards he lectured in the extra-academical school on physiology and histology, and in 1861 he was appointed physician to the Royal Infirmary. His first literary contributions to clinical medicine were papers on Pseudo-Paralysis Agitans and on Facial Hemiplegia. He afterwards took up the subject of aphasia, and furnished articles on Nervous Disease to Reynolds's System of Medicine. In 1869 he was appointed to the chair of Pathology in the University. In 1880 he had an attack of right hemiplegia, together with aphasia, amounting to almost absolute inability to make use of either speech or writing. He died in 1881. Humphry Sandwith was born in Yorkshire in 1822, studied medicine in London, and in 1846 passed the examinations of London University and of the Royal College of Surgeons of England. In 1849 he went to the East, first to Constantinople and then to Nineveh with Sir Austen Henry Layard. He held an appointment as surgeon in the Turkish army during the Russian war, serving on the Danube in 1854 and in Kars in 1855. When Kars surrendered to the Russians Sandwith

was set free by General Mouravieff in consideration of his humane treatment of the Russian prisoners. When Servia declared war against Turkey in 1876 he went to Belgrade to join the Servians, also collecting money for them in England and writing in the English newspapers against intervention in favour of Turkey. Sandwith was the author of several books relating chiefly to Turkish affairs. He died in Paris in 1881. William Scovell Savory was born in London in 1826, graduated as M.B. at London University in 1848, became a Fellow of the Royal College of Surgeons of England in 1852, and in 1859 was appointed lecturer on general anatomy and physiology at St. Bartholomew's Hospital. In 1861 he became assistant surgeon to the hospital and was surgeon from 1867 to 1891. He was appointed lecturer on surgery in 1869 and held the office for twenty years. In 1885 he was elected President of the Royal College of Surgeons, and held the office for four years, the longest tenure in the history of the College. He was Hunterian Professor of Comparative Anatomy and Physiology from 1859 to 1861, Bradshaw Lecturer in 1884, and Hunterian Orator in 1887. In 1879 he delivered at Cork an address which was a declaration against the antiseptic method of Lister and was "the last public expression by a prominent surgeon of opposition to the now universal method of modern surgery." He was created a baronet in 1890 and died in 1895. John Scouler was born in Glasgow in 1804, studied medicine at the university there, and entered the service of the Hudson's Bay Company as surgeon and naturalist. Returning to Glasgow he graduated as M.D. in 1827, and in 1829 was appointed Professor of Geology and Natural History and Mineralogy in the Andersonian University (now part of the Glasgow and West of Scotland Technical College). He was the author of many papers on natural history subjects, and, in conjunction with two medical colleagues, established the *Glasgow Medical Journal*. He died in 1871. Charles Scudamore was born in Kent in 1779, studied medicine in London and Edinburgh graduated as M.D. at Glasgow University in 1814, and then settled in London. He went to Ireland in 1829 in attendance on the Duke of Northumberland, then appointed lord-lieutenant, who knighted him the same year. He was the author of several works on mineral waters, rheumatism, &c. He died in 1849. Edward Cator Seaton was born at Rochester in 1815, graduated as M.D. at Edinburgh University in 1837, and settled in London in 1841. He was connected with the Epidemiological Society from its foundation in 1850. A report on small-pox and vaccination, drawn up by him on behalf of the society, was presented to Parliament and led to an inquiry which resulted in the passing of the Compulsory Vaccination Act in 1853. In 1858 he was appointed an inspector under the General Board of Health, from 1871 he acted as assistant medical officer to the Local Government Board, and in 1876 succeeded Sir John Simon as medical officer. He was the author of numerous memoirs and reports on small-pox and vaccination. He died in 1880. William Sharp was born near Leeds in 1805 and was admitted a Member of the Royal College of Surgeons of England in 1827. He was elected a surgeon to the Bradford Infirmary in 1829 and became its senior surgeon in 1837. He left Bradford in 1843 proceeding first to Hull and then to Rugby, where he was the means of establishing science teaching as part of the curriculum of Rugby School. Dr. Sharp died in Wales in 1896. In 1856 the degree of M.D. was conferred on him by the Archbishop of Canterbury, a method of graduation which formed the subject of an article in THE LANCET on the occasion of his death.[1] William Sharpey was born at Arbroath, in Forfarshire, in 1802, studied medicine in Edinburgh and Paris, and graduated as M.D. at Edinburgh University in 1823. He then spent some years on the continent, and returning to Edinburgh commenced to lecture on anatomy in the Extra-mural School in 1831-32. In 1836 he was appointed to the chair of anatomy and physiology at University College, London. His biographer, Mr. D'Arcy Power, says that "his lectures proved of the greatest importance; they were models both in matter and form. They were continued for the long period of thirty-eight years and were always largely attended." Sharpey died in 1880. He was one of the secretaries of the Royal Society from 1853 to about 1871.

[1] THE LANCET, April 25th, 1896, p. 1146.

Clinical Diagnosis: the Bacteriological, Chemical, and Microscopical Evidence of Disease. By Dr. RUDOLF V. JAKSCH. Translated from the Fourth German Edition and Enlarged by JAMES CAGNEY, M.A., M.D. Third Edition. London: C. Griffin and Co. 1897. Price 28*s*.

THERE is no need to say anything here in commendation of Dr. von Jaksch's manual. On its first appearance it was warmly received on all sides for its thoroughness, accuracy, and practical teaching, and the success which it has attained, not only in Germany, but in the various countries where translations of it have appeared, proves that the reception it had was well warranted. Each successive edition has been carefully amended by its author, and this English edition has received many valuable additions by the translator, Dr. Cagney. The chapters on the Blood and on the Urine are perhaps the best in the book, which is a mine of information upon everything connected with the work of the clinical laboratory. To those engaged in original research in the wider range of subjects which it comprises such a work as this is well-nigh indispensable, supplemented as it is by a most compendious bibliography. But it is also of great value to the teacher and to the advanced student, and is an evidence of the remarkable extent to which the collateral sciences come to the aid of medicine. We have already on previous occasions dwelt at length upon the salient features of the work, and may content ourselves with welcoming the appearance of this third English edition, which in typography and illustration is most excellent.

Mitteilungen aus den Hamburgischen Staatskrankenanstalten. Band I., Hefte 2 und 3. (*Reports of the State Hospitals of Hamburg*, Vol. I., Parts 2 and 3.) Hamburg. 1897.

THESE publications form the second and third divisions of the first volume of the Hamburg Medical Reports. In the second division are eleven communications on various subjects. The first is by Dr. Gustav Zuschlag, on the Use of the Continuous Bath in the new hospital at Hamburg-Eppendorf. The author gives details of several conditions in which he has found this treatment useful, and mentions more particularly multiple tuberculous joint affections, and septic wounds. Amongst the other communications are some papers on surgical operations, which will be read with interest, notably the one on Surgical Treatment of the Cerebellum, by Dr. Jarz. In the third division are no less than seventeen communications, many of them of the greatest interest. Professor Lenhartz contributes an article on the diagnosis of small-pox from chicken-pox, which is accompanied by well-executed illustrations; so also is the paper by Dr. Th. Lochte on a Case of General Neurosis of the Vessels with Peripheral Gangrene (so-called Raynaud's disease). One of the best articles is that by Dr. Karl Küstermann on Investigations on Beriberi. A post-mortem examination on a case is described in which rather unusual changes were found, more particularly degeneration of the vagi about the level of the carotid vessels, which probably had a causal relationship with the severe cardiac attacks from which the patient suffered. The fibres of the external popliteal nerve were also found to be degenerated. Certain changes hitherto undescribed were

found in the muscles. Another article worthy of note is by Dr. M. Simmonds on Changes of Form Observed in the Trachea. Dr. Erich Wille writes a paper on the Morbid Anatomy of the Pancreas in Diabetes, illustrated by drawings of microscopic specimens. Another important communication is by Dr. H. Wilbrand and Dr. A. Staelin on Pathological Changes in the Eye Occurring in the Early Stages of Syphilis.

JOURNALS AND REVIEWS.

The Phonographic Record.—Two Cases of Malignant Abdominal Tumour, by Dr. H. Couper Patrick, is the title of the opening paper in the *Phonographic Record* for November. Mr. Herbert Caiger, F.R.C.S. Eng., has an interesting note on an Obscure Case. A male Kaffir child, aged seven years, was found lying unconscious. There were clonic convulsive movements of the face, especially of the right side of the mouth. The right arm was very soon afterwards affected with similar movements, which a few minutes later spread to the right leg. The left arm and leg were flaccid and motionless. The convulsions subsided after lasting several minutes. The pupils were equal and of medium size. After a short interval the convulsive movements recommenced. The march of the spasms was very definite. Horizontal movements of both eyes occurred, then up and down movements of both eyebrows. Movements of the nostrils and mouth occurred. The clonic spasms were much more marked on the right side, the arm and shoulder, and finally the leg became affected, while the left limbs remained unaffected. After two or three of the spasms had been observed it was found that compression of the left carotid artery checked the spasms as long as it was efficiently kept up. The diagnosis first made was intracranial hæmorrhage. The case was first seen about 6.30 P.M., and the next morning the patient was found to be perfectly conscious, with no apparent paralysis. An examination of the heart revealed a "to-and-fro" movement, and the diagnosis was changed to mitral stenosis with embolism of one of the smaller cerebral arteries. The interesting points in the case are: (1) that embolism may produce such convulsions, and (2) that compression of the carotid artery checked these convulsions. Dr. A. Hill Joseph writes some interesting notes of cases illustrating the influence of one disease upon another.

The Westminster Review.—Dr. H. Baptist Crofts has an interesting paper entitled "Victorian Medicine," in which he pleads for the further cultivation of a school of medicine considered as pure science, and argues that most of the real advances made in medicine during the Victorian era have arisen from the study of biology. In the "Independent Section" Mr. W. T. Freeman, F.R.C.S. Eng., argues against the Darwinian theory of evolution as he considers that there are "countless original forms which always have been and always will be." We do not say that we agree with him, but his paper is worth reading.

Pearson's Magazine.—This popular monthly has a story in it which we can only characterise as quite unfit to appear in a lay journal while it is written by one ignorant of what he is writing about. It is called "The Microbe of Death," and the teller is a medical man called by the author Sutherland Huntingdon. His moral point of view may be gathered from the following: "What is remorse? Fear of detection. I can never be found out. Why, then, should I feel remorse?" Dr. Huntingdon's remarks are a gross plagiarism from those of George De Barnwell, who, it will be remembered, said on the night before his execution: "It may be an error of judgment, but it is no crime. Were it crime I should feel Remorse. Where there is no remorse Crime cannot exist. I am not sorry; therefore I am innocent." Dr. Huntingdon's views on the subject of anthrax poisoning are peculiar. His victim died from inoculating his finger by a scratch from a bone during a post mortem examination on a man who had been inoculated with anthrax just before his death. In such a case a pustule would almost certainly have appeared at the site of the puncture by the bone, yet it is specially mentioned that there were no local symptoms. Stories of this sort are not pleasant reading for the public and give a grossly unfair description of the medical profession while they disseminate extraordinary pathological errors.

The Strand Magazine has a remarkable story of human endurance entitled the Greatest Athletic Feat on Earth (?). The story is told with the air of probability that the old stories in *Blackwood* were wont to wear, and with strict attention to detail and statistical adnexa, so that the writer convinces us against our wish of the truth of the narrative. Dr. Conan Doyle's serial story, The Tragedy of the *Korosko*, has reached a very exciting point.

The Contemporary Review.—Sir Edmund Verney contributes a popularly written but sound article on the Bacteriology of Milk, a very important subject, not only from the point of view which regards milk as a carrier of infection, but also on account of the influence which certain bacteria have upon the flavour and keeping qualities of butter and cheese.

Knowledge.—The literary supplement of the November issue of this magazine is prefaced by a signed article by Mr. R. Lydekker dealing with the study and use of scientific literature. The keynote of the article is found in the opening paragraph, in which the author says: "The great difficulty that besets both the professional and the amateur student of natural science at the present day is to find out what has already been written on the subject he may have in hand." This applies as much to medical literature as it does to the literature of other branches of science. In Neale's Digest we have an indispensable aid, but for reasons best known to themselves members of the profession do not consult the work regularly.

New Inventions.

A MOUTH-OPENER.

MESSRS. WEISS AND SON, of 287, Oxford-street, W., have just brought out a little appliance which is intended for the use of anæsthetists. It has been designed by Dr. Frederic Hewitt with the object of affording a ready and rapid means of opening the mouth of the semi-anæsthetised or anæsthetised patient. Owing to the frequency with which the upper teeth overlap the lower it is often impossible to relieve obstructed breathing by the customary plan of pushing the lower jaw forwards, and it therefore becomes necessary to open the mouth. If the teeth are tightly clenched, and more especially if there are no vacant spaces between them, it is by no means an easy matter to do this. The difficulty reaches its acme in the case of powerfully built men whose upper teeth considerably overlap the lower. The little appliance here figured is made of brass and is in reality a curved finger shield, more or less wedge-shaped, which can be introduced, as shown, beneath the overlapping upper teeth. When the thin end of the wedge has gained admission the mouth-opener is pushed onwards till the teeth are separated by the large end, at which two slots are cut, one through the upper and the other through the lower wall. When once the teeth have fixed themselves in these slots the finger may be taken out of the instrument and the mouth will remain open without further assistance.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 20, 1897.

THE General Medical Council will on Tuesday next, Nov. 23rd, assemble for its Sixty-third Session. The President's health will not, unfortunately, admit of his attendance. Nevertheless, he takes great interest in the business of the Council and exercises a keen supervision over it, but he will, it is understood, ask some other member of the Council—probably Sir WILLIAM TURNER—to act for him as President. It is long since the General Medical Council met without Sir RICHARD QUAIN'S presence, and his absence from their midst will be a regrettable event to all the members. Three other changes in the constitution of the Council will be noticeable. Sir JOHN BANKS, the Representative of the Royal University of Ireland, whose genial nature and courtly manners have made him a personality in the Council since 1883, has resigned, and he will be replaced by Sir CHRISTOPHER JOHN NIXON. Dr. WILLIAM MOORE, the Crown Representative for Ireland, has also resigned and his successor has not yet been appointed. Mr. VICTOR HORSLEY will appear for the first time at the table of the Council in the honourable position of a Direct Representative for England and Wales, where he may be expected to increase the liveliness of the Council's discussions while inviting it to take a more extended view of its own functions and powers.

It is not easy in the absence of a set programme to forecast the nature of the subjects which will mainly occupy the attention of the Council. But it is not altogether impossible to do so, and some of them are to be of exceptional importance to the profession. A reference to the minutes of the last meeting will suggest that preliminary education will be one of these. We gather that the Education Committee is entrusted with the duty of reporting on the best means by which the standard of preliminary education in the various educational bodies can be raised. The Council is unanimous in its determination to raise the standard. The only differences of opinion that can arise between members will have reference to the extent to which this change should be carried and to the amount of time requisite in which to give due notice to educational bodies at home and in the Colonies and India. The step is most reasonable. The standard of general education is being raised, and it is obvious that a sound scientific education in medicine needs for its basis a more sound general education than was thought necessary a generation since. A second feature of the November meeting will be the appearance in a practically complete form of the new edition of the British Pharmacopœia. It is an open secret that the President, as chairman of the Pharmacopœia Committee, has watched the preparation of this work with parental interest. We can only express the hope that it will prove to be constructed on such views as will meet the wants of the practitioners of an empire under whose skies may be found every variety of climate and disease and whose soil possesses and nourishes every form of drug, whether mineral or organic. The question of midwives may be expected to come on the *tapis*. The Bill before the Parliament of last session was sent down by the Lords of the Privy Council for the consideration of the General Medical Council and, as our readers will remember, it was referred to a Committee. A report from this Committee may be expected. It will doubtless be of such a nature as will reflect the gravity of the subject, and it may be expected to recognise that a lying-in woman in poverty is entitled to the peculiar consideration of the State. The delay in disposing of this subject is not creditable. Its periodical reappearance in the Council is a source of enormous expense to the Council, and the Government cannot much longer have any doubt as to the general principles on which such legislation as is demanded should be based. The great object of the Council should be to secure that in some practical way or other the supervision of the profession is ensured to every lying-in woman who needs it. Yet another subject of almost greater interest and of quite equal difficulty to be brought before the Council is that of medical aid associations in their ethical rather than their medical aspects. It will be remembered that various memorials from Norwich, Yarmouth, and other places were referred by the Council to the consideration of a Committee. The report of this Committee may be expected at the approaching meeting, when it is most sincerely to be hoped that the profession will receive some luminous suggestions for guiding the action of individual practitioners in accepting medical office in such institutions, especially under conditions which do not allow of efficient medical service or which violate the decent rules which regulate medical practice.

Various subjects of moment were referred to the Executive Committee for further consideration. One of these was the question whether the Council's position towards unqualified assistants might not with advantage be made more clear and stringent. The coming session will be curiously unlike its predecessors for several years if it does not supply instances of practitioners being compromised or put into a very unfortunate position by the employment of unqualified assistants. Many such practitioners plead ignorance of, or inability to understand, the Council's attitude. But apart from the question of clearness it is undeniable that both in the profession and in the Council there is a growing feeling that the time has come for curtailing greatly the functions of the unqualified assistant. The Executive Committee will also have before it—and not for the first time—the subject of the disciplinary powers of the various medical authorities over their ill-behaving diplomates or graduates. It is gratifying to see in most of these authorities a desire to possess disciplinary powers corresponding to their powers of granting a licence to practise medicine, whether in the form of a degree or a diploma. But in some quarters whence better things might be expected there is a strange reluctance to use such powers where they exist or to acquire them where they are not possessed. This is not as it should be.

On the contrary, we feel very strongly that distinctions given by universities and corporations should be capable of withdrawal for sufficient reasons by the bodies which granted them and that all self-respecting educational authorities should strive to be placed in this position. But we have said enough to show that the Council has ample material for several days' business.

ON Friday, Nov. 12th, Mr. TUBBY and Mr. ROBERT JONES read two papers at the Clinical Society of London on a method of treatment that has already been described and illustrated in the lay press as a "modern miracle." Several months ago we first heard of the re-introduction under an altered form of an old and discarded treatment of Pott's disease of the spine, which aimed at nothing less than the immediate straightening of angularly curved spines by the application of a combination of longitudinal extension and vertical pressure over the gibbosity. About sixty years ago an English surgeon—Mr. HARE—published a small work on the treatment of this disease in which he advocated the forcible straightening out of bent spines, and in which is figured an apparatus differing but little from the one used for the forcible extension practised in Liverpool, but he does not seem to have supplemented this by the application of vertical pressure to directly open out the curve. He, however, figures a case before and after treatment in which he obtained a result fully equal to any claimed by the more recent surgeons in their successful cases. It would be wholly wrong to use the abandonment of Mr. HARE'S treatment as an argument against the use of M. CALOT'S treatment, for the conditions are not the same. M. CALOT, who was present and spoke at the meeting, uses an anæsthetic, which not only renders the process of extension painless, but nullifies the resistance of the muscles to the extension. Then the method of extension by six strong assistants is obviously more powerful than was Mr. HARE'S, and the addition of direct vertical pressure over the convexity of the curve adds considerably to the efficiency of the straightening process. And, again, the subsequent fixation and support of the spine in the corrected position in a plaster-of-Paris casing is an entirely new element in the treatment. We may therefore say that while the motive of the treatment is not new, yet the mode of carrying it out is so altered and improved that it may fairly claim to be a "new" treatment.

It was evidently in accord with the fitness of things that this new treatment should come up for discussion at the Clinical Society of London, which was founded solely for the purpose of investigating the clinical features of disease and especially the effects of treatment. At the discussion the papers and also the photographs displayed by a lantern demonstration of patients before and during treatment clearly showed (1) that angular curves of the spine can very generally be straightened out at once or in two or three sittings by the exhibition of an amount of force well within the limits of safety; (2) that this treatment is not attended with grave immediate danger if carried out with due care; and (3) that curves of long duration and great extent may yield to this treatment. But, strange to say, neither Mr. TUBBY nor Mr. JONES showed the result of this treatment in even a single instance, and the demonstration was of value and interest solely as indicating the method adopted and the extent to which curves of the spine will yield to force. We feel sure that these gentlemen appreciated and regretted this defect in their demonstration as much as the other members of the society did and that they will take steps to make it good. Sufficient time has not yet elapsed to allow of their showing the final results obtained. But this being so we can only regard the demonstration as altogether premature and not fitted to initiate a useful discussion. *A priori* arguments may be ingenious, but they are neither scientific nor convincing. Facts are what we want, and the Clinical Society exists for the collection and sifting of facts, and until the surgeons who have practised this treatment for spinal caries have completed their cases and can not only tell us but *show us* their final results, to discuss the treatment is a barren pursuit. Who cannot see the initial charm of the treatment? But who also cannot see the possible—nay, probable—evils that beset it? But neither the charm nor the fear would weigh against proved results, and until we have these results there is really nothing to discuss.

We feel it our duty to enter this protest. Incomplete publication of methods of treatment is always mischievous, and never so mischievous as when the publication takes place in the lay press. We can all remember as a terrible warning the premature publication of KOCH'S "cure" for tubercle, the cry of *à Berlin* and the widespread disappointment which followed and which has left behind it a serious distrust of medical innovation. Already some of the same photographs as were shown by M. CALOT at the Clinical Society have found their way into a lay journal and the public have been excited by a partial description of a "miracle." This is not creditable to the profession, and the Clinical Society will do well to call to mind the rules which its founders laid down for the investigation of disease and not to accept without demur a merely partial account of a procedure in surgical treatment which is either a great boon or a great mistake.

SEVERAL suggestions have recently reached us as to the need for an amendment of the Infectious Disease (Notification) Act, 1889. On Nov. 6th we published a letter from Dr. YOUNG, the Medical Officer of Health for Crewe, with reference to the action of Crewe Town Council in memorialising the Local Government Board and pointing out that a change in existing law is necssary. The subject is again referred to in a letter in our issue of to-day from Mr. GARSTANG, the Medical Officer of Health for the Bucklow Rural District, explaining the similar action which has been taken by his sanitary authority. Mr. GARSTANG urges the importance of fresh legislation and also makes certain suggestions as to points that are somewhat in dispute. We may state at once that we are entirely in agreement with those who press for amending legislation, and that we believe the time has come for making the Act compulsory throughout England and Wales. The total population of England and Wales was estimated in March, 1896, to be 29,002,525, and notification of infectious

disease is already in force in districts having an aggregate population of 26,935 852, as well as in 40 port sanitary districts. Surely the time has come when the country as a whole should no longer be deprived of the full advantages of the system of notification of infectious diseases merely because two millions out of thirty millions of people do not want to know the extent to which such disease exists in their districts. We are further in agreement with those who urge that the time has come for abolishing dual notification of the same case of disease—that it is to say, by householder and medical practitioner. As a matter of fact the requirement is a dead letter. But a householder who does not call in a medical practitioner until late in the disease should not be allowed to escape the penalty for having failed to notify as soon as he became aware of the nature of the disease merely because he has called in a medical notifier at a later stage. Such points as this will have to be guarded against.

Notification is now made compulsory on "becoming aware" that the patient is suffering from a notifiable disease, and it is suggested that the proof of not being "aware" should rest on the person who fails to notify. This is a provision that would be much resented in its application to the medical profession as a whole, however convenient it might be to some medical officers of health. It rests on the assumption that medical practitioners will wilfully conceal the existence of infectious disease in their patients, and whatever disinclination there may have been as to revealing such matters some years ago we believe it no longer prevails to any conspicuous extent, so that it is quite unnecessary to place medical practitioners in a legal position which would reflect in an unbecoming—nay, a degrading—manner upon their honour as well as their intelligence. But where concealment can be proved we admit that the penalty should be heavy—indeed, a fine can hardly be too heavy where such concealment has been attempted by the owners of laundries, bakeries, and dairies, the persons to whom Mr. GARSTANG has referred in his suggestions for legal amendment, and who are obviously liable to temptation in a special degree, and in the same degree are potent for mischief. Another suggestion which has been made is that when one certificate has been given in a case no further certificate should be paid for the same case. We see no objection to this provided the second medical practitioner who may be called in sees the patient together with, or in association with, the medical man who has already notified the disease, and provided the diagnosis of the second comer is the same as that of the first practitioner. But if a separate medical practitioner is called in independently then he should notify quite apart from there having been a previous medical visit, of which he may know little or nothing. Indeed, in populous districts patients have been deliberately removed from one address to another to avoid the medical officer of health and his staff, and this has only been discovered when it has been found necessary to call in a second medical practitioner who has notified the disease a second time. Again, in towns where measles is notifiable, a second practitioner has discovered the case to be one either of typhus fever or commencing small-pox; such cases should obviously be notified a second time.

We still find some medical officers of health desirous of reducing the fee for notification in those instances in which a second case of infectious disease occurs in a house where a previous one has been notified within a given time—some say a month. This proposal is based on the assumption that the medical officer of health has the premises under supervision by reason of the first notification. We are convinced that this reasonable view is quite inapplicable to a very large portion of England and Wales, and even where such supervision is maintained it is done by a sanitary inspector, who is quite incompetent to judge whether the second case occurring, say, two or three weeks after the first one is a case of the same disease or whether the same or different remedial measures are called for. We have so recently dealt with this proposal that we need only now refer to one other aspect of it. Since notification of infectious disease came into operation this country has taken a first step towards a national registration of disease, and from 1892 onwards use has been made of the information thus procured to study the relation of season both to the occurrence of certain specified diseases and to their fatality, the necessary data being annually compiled from the notification returns by the medical officer of the Local Government Board. But if the proposal here suggested were carried out the aim of those interested in preventive medicine would in this respect at once receive its death blow. A fatally retrograde step would be taken by the country which has always hitherto been foremost in the desire to place public health measures on a scientific footing, the object being to save a certain number of half crowns. On this point alone, we believe, promoters of future legislation must be prepared for much opposition. It is also curious that this demand for a very mischievous little piece of economy should come from medical officers of health, for it is on their behalf that a weekly distribution of the amount of infectious diseases in a large number of districts of England and Wales is made. It was inferred that they wanted actual facts, not garbled ones; and the system was inaugurated by Dr. TATHAM because it was held to concern every district to know whether an adjacent one had five or fifty cases of a certain infectious disease.

Annotations.

"Ne quid nimis."

SCHOOL HYGIENE.

SCARCELY more than two hundred years have elapsed since the first efforts were made—and to their praise be it said, by the Scotch—to provide a public school for the education of children in every parish. A hundred years later England awakened to the necessity of supplying the means of elementary education, which up to that time had been limited to the grammar schools maintained by the endowments of pious benefactors. Successive acts of the legislature by limiting the age at which work was allowed to be commenced facilitated the spread of knowledge by affording time for instruction, but it was not till 1870 that through the institution of school boards, as effected by Mr. Forster's Education Act, education became truly general. In 1880 attendance was made compulsory, in 1891 education became free by the institution of the fee grant, in 1893 special education was decreed for the blind and deaf, and in the

same year, with very few exceptions, the age of exemption, below which no child is allowed to work, was raised to eleven. The Moral and Physical Aspects of School Hygiene, to which every child is now subjected, is the title of the Howard Medal Prize Essay of the Royal Statistical Society the author of which, Dr. James Kerr, is the medical superintendent of the Bradford School Board, and it is here shown how important in every point of view are the conditions of their environment to children during their school life. The accumulation of large numbers of children in limited spaces of course predisposes to trouble of various kinds. Infectious diseases are more likely to spread unless preventive measures are adopted, whilst the want of exercise and deficiency of pure air which exist might be expected to cause children to be an easy prey to such diseases in spite of being well fed and warmly clothed. The average attendances at the Poor-law schools in 1894 had risen to the high number of 4,225,000. The death-rates for each period of five years amongst girls, especially in the later years of school life (10–15 and 15–20), are found to be greater than amongst boys. With increased attendance at school deaths from accidents have decreased amongst boys, and in regard to infectious diseases, including measles, whooping cough, scarlet fever, and diphtheria, the statistics that Dr. Kerr has collected show that there has been no obvious bad effect but rather a good protective effect from school attendance. Small-pox, owing to the girls being more exposed by school attendance to the communication of infection, has somewhat increased, and so too has phthisis, and Dr. Kerr asks whether this effect can be owing to the atmosphere of the school being fouler than that of their own homes. Skin diseases, parasites, and infectious ophthalmia may be regarded as due to home influences. The greatest difficulty that presents itself at the present time in school hygiene is the question of warming and ventilation, and a curious calculation shows that greater efficiency is obtained when these conditions are good, since more grant is earned, and better work is done, as tested by examination results, by the well-nourished brains of the children in the mechanically ventilated schools. Dr. Kerr's dicta are that for the artificial ventilation of a school by warmed air 1000 cubic feet per hour per child should be the lowest estimate, the accommodation being reckoned at 10 square feet per child or 8 square feet for infants; that the velocity of the incoming air should not exceed 5 feet per second, entering through inlets allowing 13 square inches per child; and that the temperature of the room should be 60° F. and the differences between a wet and a dry bulb thermometer should not exceed 4° or 5°. From Dr. Reid's and Dr. Bailey's investigations it is certain that the ventilation of the schools is in a lamentable condition. In the rural district of Stafford Dr. Reid found that in thirteen of the eighteen schools the carbon dioxide exceeded 20 volumes in 10,000, and in four it was as much as 30 volumes, one school showing 37 volumes, the average proportion present in fresh air being, it will be remembered, 4 volumes in 10 000. It must not be overlooked that whilst the carbon dioxide is a serious impurity it is only an indication of the still worse contamination of the air by other emanations from the skin, lungs, and clothes of the children. Some interesting facts in regard to the hearing and the vision of school children are recorded by Dr. Kerr. In his concluding remarks, with the tenour of which every practitioner of medicine will agree, Dr. Kerr remarks that the hygienic study of ordinary school children is only beginning. The evil effects of the home, uninfluenced and too often neglected by other agencies, could, he thinks, to some extent be influenced by the medical inspector for good. Morally and physically the homes will be improved as the school children are accustomed and educated to clean, beautiful, and well-ordered schools and inspired with an abhorrence of hot, foul air and stuffy rooms, intolerance of diseased conditions and vermin, and, above all, a sense of powers that require mastery, a confident self-control, and a feeling of citizenship in this world, beyond which there is no other good to be desired by the State from its schools.

CENTRAL HOSPITAL COUNCIL FOR LONDON.

THE desirability of the existence of some body which should connect all the hospitals of London has long been recognised by all who have considered the subject of hospital administration. In the early part of the year the Charity Organisation Society suggested the formation of a central hospital board for London, and a committee was formed consisting of 168 members interested in hospital work, but it was felt that in such a matter as this the hospitals were chiefly concerned, and that it was very desirable that such a board should consist of representatives from the various hospitals. A meeting was accordingly held at Westminster Hospital of representatives from all the London hospitals to which medical schools are attached, and a committee was appointed to draw up provisional rules for the "Central Hospital Council for London." Each hospital was requested to nominate three representatives, one of whom must be a member of the managing body of the hospital and one a member of the medical staff; and as there are in London twelve hospitals with medical schools the new Council consists of thirty-six members. The first meeting was held on Nov. 16th at St. Thomas's Hospital, and the constitution and rules of the Council were arranged. The following are the representatives already appointed:—St. Bartholomew's Hospital: Sir Trevor Lawrence, Bart., Mr. Alfred Willett, F.R.C.S. Eng., and Mr. W. H. Cross. St. Thomas's Hospital: Mr. J. G. Wainwright and Mr. Henry Hugh Clutton, F.R.C.S. Eng. Guy's Hospital: Mr. Alfred Cohen and Mr. A. J. Lawrence, C.I.E. Charing-cross Hospital: Mr. T. P. Borrett, Mr. J. H. Hale, and Dr. Green. King's College Hospital: Viscount Dillon, the Rev. Prebendary Wace, D.D., and Dr. A. B. Duffin. London Hospital: Hon. Sydney Holland, Mr. J. H. Hale, and Dr. Stephen Mackenzie. Middlesex Hospital: Sir Arthur Watson, Bart., Q.C., Dr. Fowler, and Mr. F. Clare Melhado. Royal Free Hospital: Mr. Charles Burt, Mr. G. F. Sheppard, and Mr. Willmott H. Evans, F.R.C.S. Eng. St. George's Hospital: Mr. Timothy Holmes, F.R.C.S. Eng., Dr. Isambard Owen, and Mr. C. L. Todd. St. Mary's Hospital: Colonel Stanley G. Bird, Mr. Malcolm Morris, F.R.C.S. Edin., and Mr. Thomas Ryan. University College Hospital: Mr. enry Lucas and Dr. J. Rose Bradford. Westminster Hospital: Dr. Allchin, the Rev. Dr. Troutbeck, and Mr. G. G. Tremlett.

THE PARISH NURSE DIFFICULTY.

JUDGING from the character of the correspondence now taking place in the columns of the *Newbury News* the subject of parish nursing is receiving much attention in Berkshire. In a recent letter certain views are expressed which are not likely to receive either the approval of the medical profession or of those who are most genuinely interested in the provision of nurses for rural districts. The writer, Miss Thoyts, of Suthampstead Park, recognises the fact that the labouring poor prefer the services of women taken from the same rank of life and who have received the requisite training. But, says Miss Thoyts, "what our poor people need are not merely parish nurses as the term nurse is now understood, but clever midwives capable of undertaking such cases solely on their own responsibility—in fact, women doctors, duly qualified and recognised as such, who will practice from rural centres, attending the women for a fixed fee, and working as professional nurses, not as paid charity servants." Not only, however, are the duly qualified women-doctors to act as parish nurses, "working among

their own sex," but they are to "tend both soul and body simultaneously and spread true religion both at home and abroad." The chief objection to such an arrangement is said to be the "doctor's jealousy of encroachment." After this we are not surprised to read an eulogy upon the prescribing druggist who "knows each person," who is "consulted as a friend," "explains what is in his medicine and why it is given," and last, but not least, "charges nothing for his advice." We are also informed that where parish nurses are engaged they are fast taking the place of the chemist. The change, however, in this respect is not considered to be for the best, for "the chemist is a man of experience," &c. This kind of advocacy is not likely to assist in promoting the interest taken by the profession in the provision of nurses for the deserving poor. If there is really a demand for lady-doctors in rural districts doubtless in time the demand will be met, but to expect the same person to act as medical attendant and as nurse, and to put up with "cottage fare and cottage furniture," is, to say the least unreasonable and absurd. The family washing is not referred to; possibly whilie residing in the cottages this will not be considered any part of the woman-doctor's duty. Whatever may be the case in Berkshire other counties are finding practical means of overcoming the difficulties Miss Thoyts refers to. In Essex the County Cottage Nursing Association has done such good work that, at the suggestion of Lord Rayleigh, the Lord-Lieutenant of the County, a Jubilee Fund was raised to still further increase its usefulness, and over £2000 have been raised and handed over to the association. In this county the cottage nurses are taught to consider themselves the handmaids of the medical practitioners, and are warned against taking any unnecessary responsibility. Were any of them to attempt to compete with the prescribing druggist doubtless their names would speedily be removed from the rolls of the association. Before attempting to commence work on the lines laid down by Miss Thoyts and courting certain failure Berkshire had better make itself acquainted with what is being done elsewhere. The problem is admittedly a difficult one, but the difficulties should not be insurmountable. The way to overcome them, however, is by acting in harmony with the wishes of the profession and not in attempting to set up a class of nurses who are at one and the same time to act as doctor, nurse, and district visitor.

MEDICAL OFFICERS OF HEALTH AND THE WATER-SUPPLIES OF THEIR DISTRICTS.

THE unfortunate experience of Maidstone has taught us many lessons, and not the least important of them has been that which shows the necessity for a constant supervision of the sources from which water-supplies are derived. This Maidstone catastrophe should have the effect of inducing medical officers of health throughout the country to inspect, or at least to attempt to inspect, the water-supplies of their districts and to report thereon to their sanitary authorities. In some cases there may obviously be considerable difficulties in carrying this out, but it is only in this way that a medical officer of health can relieve himself of responsibility with regard to the future and place such responsibility upon the shoulders of the district councillors. It may be that certain medical officers of health will have their proposals for reform and control disregarded, but in such cases the officer has done his duty; he has placed on record the actual condition of affairs, and with those to whom is entrusted sanitary administration rests the moral responsibility. As an example of the attitude which we suggest a recent special report upon the water-supply of Chatteris, which has just reached us, may be mentioned. Mr. Ronald Daniel, the medical officer of health of the district, discusses the water-supply from the chemical and bacteriological, as well as from the topographical standpoint, and from whichever view the subject is approached there would seem to be ground for anxiety. Chatteris, like many other towns of its size, draws its water from shallow wells situated in a pervious formation overlying clay which is also riddled with other holes for the deposition of excremental matters. The history of Chatteris shows, as also does the history of many another place, that it has in no wise been remarkable in the past for the prevalence of water-borne diseases, but Mr. Daniel points out how that the conditions which obtain are such that an explosion might occur at any moment. Polluted water might, he tells the district councillors, be consumed for years with impunity, but on the other hand disastrous results might at any moment follow. The report concludes thus, "The public safety, gentlemen, lies in your hands and, having placed the several facts of the matter before you, it is for you to decide whether you will augment such safety or in the future run those risks which so far have happily been evaded." There is a healthy and vigorous ring about these words, and many other medical officers of health will do well to approach their sanitary authorities in a similar strain. Let the facts be placed on record so that they may be referred to if a day of reckoning comes.

MEDICO-LEGAL ENTOMOLOGY.

DR. WYATT JOHNSTON and Dr. George Villeneuve have published in the August number of the *Montreal Medical Journal* some valuable researches on the entomology of dead bodies, a branch of scientific inquiry originated a few years ago by M. P. Mégnin, of Paris, whose book, "La Faune des Cadavres," was reviewed in THE LANCET of Oct. 24th, 1896, p. 1157. The result of M. Mégnin's work is of considerable interest and importance in a medico-legal sense from the fact that the date at which death occurred may be estimated from the insects and the insect débris found in a decomposing body. The greater part of the available evidence has naturally been collected in Paris, but it is obvious that the circumstances will vary in different countries. The observations of Dr. Johnston and Dr. Villeneuve were made in the vicinity of Montreal, where the temperature from the beginning of October to the end of April is much lower than in Paris. According to M. Mégnin the fauna of bodies exposed to the air is as follows: While the body is still fresh it attracts the diptera Musca, Cyrtoneura, and Calliphora. After decomposition has set in the flesh flies Lucilia and Sarcophaga are attracted. Later (from the third to the sixth month), when fatty acids are formed, the body is invaded by the beetle Dermestes and by the moth Aglossa (this latter was never met with in the Canadian observations, but is apparently very common in France). Later, Pyophila of the diptera and Necrobia of the coleoptera appear as the condition becomes caseous. After this (from the fourth to the eighth month) comes a period of ammoniacal decomposition marked by liquefaction of the tissues into a blackish pulp, during which stage a group of coleoptera, Necrophorus, Silpha, Hister, and Saprinus are met with, as well as the diptera Ophira, Thyreophora, Phora, and Lonchea. In the next stage (from the sixth to the twelfth month) the tissues dry up and are invaded by acari, the débris and excrement of which form a powdery deposit. Subsequently (from one year to three years), with the progressive drying of the the tissues, Aglossa (second generation) reappears, together with the moth Tineola and the coleoptera Attagenus and Anthrenus. Finally (over three years), when nothing but the dried ligaments remain on the bones, two forms of coleoptera, Tenebrio, and Ptinus appear and devour these. In the case of buried bodies the fauna are said to be much

less varied and to consist mainly of Phora and Ophira in the diptera, and Philonthus and Rhizophagus of the coleoptera, together with any diptera which may have gained access to the body before burial. This list shows that only a small number of genera are represented out of the total diptera, coleoptera, acari, and lepidoptera occurring in France, so that in practice their recognition becomes comparatively easy. Dr. Johnston and Dr. Villeneuve found in their observations that the order of the successions of the different insect forms followed the rules laid down by M. Mégnin, but they occurred on exposed bodies in a shorter time than he stated. Of the twenty-three genera indicated by him as characteristic of exposures up to one year they met with eleven, and five of the twelve remaining are rare on the American continent. They only encountered two which he did not mention. These were Trox and Omosita, both rare in France, although necrophagous. A knowledge of the period of the year at which breeding of the different insect forms takes place is of the utmost importance in determining the dates. A deduction not mentioned by M. Mégnin, but which the Canadian observers repeatedly found of practical use, is that if empty dipterous puparia are present the date of exposure may be reckoned as not less than one month, while the absence of empty puparia indicates an exposure of not over one month in warm weather. Their observations agreed with those of M. Mégnin as to the order of the successions. Thus, wherever acari were found it was evident that Silpha and Hister had preceded them. Pyophila was only seen when saponification of the fat was well marked. Dermestes was seen earlier in the saponification period, but never in the preliminary decomposition. Calliphora and Lucilia were the forms met with up to the end of the first month in cases where the dates were accurately established. Where the exposure lasted for only a few days Lucilia was absent. Dr. Johnston and Dr. Villeneuve give particulars of two cases of discovery of decomposed bodies in which the entomological method was confirmatory of other evidence as to the date of death; there was a third case, however, in which the body of an infant hidden over a kitchen ceiling—for five weeks as was supposed—nevertheless contained insects which are not usually found under a period of three months. The material facts were not established and the prisoner was acquitted. In conclusion, the authors recommend that observations and experiments upon exposed human bodies should be made in the particular locality before the present entomological data are applied to legal medicine. Experiments with animal bodies other than human are apt to be misleading, and results obtained by such means have not very much significance.

THE MICROSCOPE IN EXAMINATION OF PLEURITIC EFFUSIONS.

THE microscopic examination of pleural and peritoneal effusions for the purpose of establishing the diagnosis of new growths of these membranes before a clinical diagnosis can be determined is a diagnostic measure but rarely instituted. Much has been done with the chemistry of these fluids, but few careful investigations have been reported of the cellular constituents in those cases in which malignant tumours of the pleura or peritoneum were present. A paper by Dr. Aldred Scott Warthin in the *Medical News* (Philadelphia) for Oct. 16th is a valuable addition to our knowledge on this subject. He asks one question, "To what extent is it possible for the examination of the cellular elements of effusions to establish the diagnosis of new growth of pleura or peritoneum?" As an answer he gives his own experiences and methods of procedures and several illustrations of the varieties of cells met with in serous effusions. The fluid should, of course, be placed in a centrifugating machine and the deposit be examined under a fairly high power of the microscope. Dr. Warthin sums up his conclusions thus: 1. In all doubtful cases, when fluid can be obtained by exploratory puncture, cover-glass preparations should be made by fixing in absolute alcohol and ether. This should be done immediately after the withdrawal of the fluid in order that the mitoses may be preserved. 2. In early cases of simple pleurisy the sediment contains endothelial cells and no fibroblasts. The endothelial cells may be desquamated in large pieces. 3. In fibrinous pleurisy, tuberculous or septic, the sediment contains, in addition to endothelial cells, numerous fibroblastic forms. In later stages, when adhesions are forming, the endothelial cells may be entirely absent and only fibroblasts may be found. 4. In the diagnosis of sarcoma of serous cavities the character and number of the cells and the presence of numerous mitoses are the points upon which the diagnosis must be based. It is, of course, evident that the quickly-growing soft forms of sarcomata are the ones most apt to lead to the presence of cells in the fluid. The tendency of all sarcomata to break down after reaching a certain growth makes it extremely likely that in most cases free cells will be found. The diagnosis of spindle-celled sarcoma is easy from the occurrence of large numbers of spindle cells of similar size and shape, showing fewer branching processes than fibroblasts and containing more mitoses. In the round-cell forms the tumour cells are to be distinguished from the endothelial cells by their size, the character of the nucleus, and the relation of the nucleus to the protoplasm. The presence of mitotic forms will again be the most important point; in the small round-celled sarcoma these are not so easily seen. The greatest difficulty will be in the differentiation of the cells of a polymorphous-celled sarcoma from the fibroblastic forms found in fibrinous exudates. And from the general character of cell and nucleus the presence of division forms must in all cases be looked upon as being the most important point. In conclusion, therefore, the presence of numerous cell-division forms in the cells of the sediment of serous exudates may be taken as strong (perhaps conclusive) evidence that the effusion is due to the presence of a new growth, inasmuch as mitoses are but rarely found in the cells of purely inflammatory exudates.

A HOSPITAL MASONIC LODGE.

THE Masons of St. Mary's Hospital, London, are to be congratulated upon the way in which the consecration of their new Lodge, No. 2668, passed off at the Freemasons' Hall last Monday. The consecration was performed in an impressive manner by the Pro-Grand Master, the Earl of Lathom, by the authority of, and under the warrant issued by, H.R.H. the Prince of Wales, who has graciously consented to act as Worshipful Master of the Lodge, the "Sancta Maria," during the coming year, appointing the senior surgeon of the hospital, Mr. Edmund Owen, P.M., to act as his deputy. In the course of the ceremony the Rev. Studholme Brownrigg, past grand chaplain, gave an interesting address upon the close affinity which has always existed between members of the medical profession and the craft of Masonry, and paid a high tribute to the zeal and unselfish kindness with which medical men, whether Masons or not, were always ready to help in the relief of human suffering. After the consecration Brother Owen was installed deputy master of the "Sancta Maria" by the Earl of Euston, assisted by Viscount Dungarvan. A telegram addressed to the Deputy Master, and signed "Albert Edward," was read wishing a successful career to the Lodge. After the closing of the Lodge the brethren adjourned to a banquet, at which 120 covers were laid. In the course of an eloquent speech

by Lord Lathom wishing success to the "Sancta Maria," he said that he was a firm supporter of "class-lodges" in that they brought the young and the old together and helped to consolidate them in good work and in spreading amongst those just entering a profession a knowledge of the interesting and beneficent craft of Masonry. We hope to give on a future occasion, when pressure on our space is not so great, a list of the first officers of the Lodge. Meanwhile we offer to the Deputy Master, the Wardens, and the Brethren of the "Sancta Maria" our congratulations on the success of the inauguration of their Lodge.

PORTAL THROMBOSIS WITH SYMPTOMS OF INTESTINAL OBSTRUCTION.

PORTAL thrombosis is difficult of diagnosis, the symptoms being usually like those of cirrhosis of the liver, of which, indeed, it is often only a complication. The following case—in which they were acute and of a very different type, resembling at first those of biliary colic and then those of acute intestinal obstruction—is exceptional. It is published by Dr. Barth in the Proceedings of the Société Médicale des Hôpitaux of Oct. 28th, 1897. A robust man, aged forty-seven years, of intemperate habits, was suddenly seized with violent epigastric pain and vomiting. The symptoms recurred in crises lasting several hours every day, which yielded only momentarily to morphine. Examination showed slight tenderness in the epigastric and right hypochondriac regions. The bowels acted regularly. Suddenly, on the seventeenth day, a change took place. The abdomen became tympanitic, hiccough and abundant vomiting of green porraceous matter occurred, the patient became feverish, and his expression altered. On the next day the temperature was 104·5° F., the pulse 140 and thready, and the vomiting continual; the abdomen was uniformly distended tight and very tender; the eyes were sunken, the voice was broken, and the expression was hippocratic. There had been no passage of fæces or flatus for twenty-four hours. Internal strangulation complicated by acute peritonitis was diagnosed, and laparotomy was proposed; but the patient became rapidly weaker and died in a state of collapse. A necropsy was made. The abdomen contained some reddish serum. The intestines were uniformly distended and the peritoneum was injected, of a bright red colour, but without exudation, except at a loop about the middle of the jejunum, which was purple, almost blackish, like a strangulated intestine, and covered with false membranes. The mesenteric veins not only of the diseased, but of the healthy, intestine were thrombosed throughout. In the portal vein thrombosis was more marked, the clot was greyish-red, firm, elastic, and manifestly older than the mesenteric. The thrombosis was not prolonged into the intra-hepatic divisions. The liver was diminished in volume and flabby; it was not cirrhosed or otherwise diseased. The question arises—Was the thrombosis the cause of the intestinal lesions, or were the latter the primary? Might there not have been a temporary strangulation of the intestine which caused incipient gangrene, then mesenteric thrombosis, and, finally, peritonitis by permitting migration of colon bacilli through the disorganised intestine? To this view there are several objections. No trace of constriction or mesenteric torsion was found. Above the diseased loop were analogous lesions less advanced and becoming slighter from below up. The intestinal lesions were too recent to explain the preliminary symptoms. Finally, the portal thrombosis was evidently much older than the mesenteric. Again, why was there gangrene of only a limited portion of intestine from this generalised portal thrombosis? Dr. Barth cites a number of such cases in which the thrombosis extended to the whole length of the intestine, in which only a limited lesion—cyanosis with sanguineous infiltration or gangrene, was found. In all the symptoms simulated acute obstruction and a similar part was affected—near the middle of the jejunum. He suggests an anatomical explanation—probably there is complete absence of anastomotic communications in this part which is situated in the centre of the mesenteric system, but above and below some collateral circulation by means of parietal veins is possible. In the Transactions of the Pathological Society of 1876, page 124, the late Dr. Hilton Fagge published a very similar case to Dr. Barth's, in which even the same doubt as to intestinal strangulation arose at the necropsy. But as a type, pathological and clinical, this condition has not been described.

THE GENERAL INFIRMARY AT LEEDS.

THE new operating department has been completed and is now being used regularly. There are two theatres, and each theatre has its separate waiting- and anæsthetic-rooms communicating by double doors. On either side of the entrance-hall are two rooms, one a recovery-room, the other a private room for the surgeons. The whole is lighted by electricity and supplied with warmth and washed air on the "Plenum" system. The floors throughout are constructed of terrazzo, and slope towards a gully so as to allow of easy flushing. The walls of the theatres and instrument-room are of opaline of a light green colour, fixed in large slabs to avoid joints as much as possible. A novel feature is the continuous supply of hot and cold distilled water in addition to the ordinary service. The instrument cupboards which are placed in a room connecting the two theatres are of the newest available pattern, and made of glass and gun-metal. The operating-tables are of metal enamelled white. The dressers' and sisters' tables are of white metal and glass. All the windows are fixed and cannot be opened. For warmth and ventilation full reliance is placed upon the "Plenum" system. The temperature in the two theatres is easily maintained at 65° F. The heating of the whole department takes twenty minutes. The arrangements for sterilising instruments consist of copper "fish-kettles," electricity being employed for the heating of the water. The woodwork, students' galleries, &c., are of polished teak.

THE VALUE OF HYDROCHLORIC ACID IN SCIATICA DISCOVERED BY ACCIDENT.

A SOMEWHAT remarkable instance is recounted in the *Semaine Médicale* of a patient having arrived at a successful method of treatment for himself by the merest accident—an accident, too, which was founded on a blundering ignorance of chemistry. A man who had suffered for many years from sciatica was treated in an Algerian hospital by means of hypodermic injections of salt and water, but without much success. After he had left he bethought him that perhaps the salt was not strong enough and that a stronger preparation of salt might be more successful. He therefore procured some "spirit of salt" (hydrochloric acid) and painted it on the skin, getting rid of his long-standing trouble in a few days. Having occasion shortly afterwards to attend the hospital for some other affection he confided in Dr. Bourlier, professor of therapeutics, whom he saw, how he had managed to get rid of his sciatica. This gentleman thought the plan worthy of trial, and employed it in several cases with invariable success. He then told his son, Dr. Maurice Bourlier, who was house physician, and he treated a number of cases with great satisfaction to himself and to his patients. A thesis has recently been published on the subject by Dr. C. Gennatas, of Montpellier, on the basis of a dozen cases of neuralgia of the sciatic nerve, all of which were completely relieved by this means. The procedure is simple enough. Half an ounce of strong hydrochloric acid is put in a small

cup and a brush is dipped in it and applied over the painful part of the nerve, three or four coats being painted on. The limb is then enveloped in a cotton-wool dressing. Of course, the application causes a somewhat severe smarting sensation, but this is quite bearable. A few minutes afterwards the skin becomes reddened and hot, and sometimes bullæ are formed which fill with fluid. These even if they occur disappear in two or three days. Usually the patient feels better even after a single sitting. The application can be repeated in from twenty-four to forty-eight hours, but not again for several days for fear of producing sloughs. Of course, too, where there are bullæ they must be avoided in subsequent applications. No serious inconvenience is caused by the hydrochloric acid such as was experienced when a similar procedure was attempted some years ago by Dr. Legroux with strong sulphuric acid, which was found to be liable to cause extensive sloughing of the skin. The twelve patients referred to were all reported as cured in from three to five sittings extending over from a week to twenty-five days. It may be well to say that the hydrochloric acid of the French Codex is very slightly stronger than that of our own Pharmacopœia.

THE JUBILEE MEMORIAL AND THE CITY OF BRISTOL.

THE city of Bristol is to be heartily congratulated on the success of its scheme for worthily commemorating the Diamond Jubilee of Her Majesty Queen Victoria. In February last the inhabitants resolved to provide a convalescent home chiefly for the use of the patients of the Royal Infirmary and the General Hospital, but partly also for the use of other convalescents. The original proposal was to raise £50,000—£20,000 for the building and £30,000 as a nest egg in the form of endowment. This generous conception has been exceeded, thanks chiefly to the cordial and munificent gifts of some of the leading citizens, especially Messrs. Fry and Messrs. Wills and Co. The subscriptions from gentlemen connected with the latter firm include £5000 from Sir William Henry Wills, £10,000 from Mr. H. O. Wills, and the promise from Mr. E P. Wills to provide a building in concert with the committee of the value of £20,000. Mr. Joseph Storrs Fry gives £10,000. In spite of the competition of numerous other Jubilee objects the total amount promised up to the present date is £80,000 It will be gratifying to Her Majesty to know that the sentiments of her grateful subjects in Bristol have taken such admirable shape. A convalescent home for generations to come is a form of gift which for grace and usefulness cannot be exceeded. Bristol has done well.

WOUND OF THE BRACHIAL PLEXUS: SUCCESSFUL SECONDARY SUTURE.

THE following case is recorded in the *Intercolonial Medical Journal of Australasia* of Sept. 20th, 1897, by Dr. Humphrey Martin. A man was cut with an axe along the posterior border of the left sterno mastoid muscle. The wound commenced one and a half inches above the clavicle and ran upwards and backwards for two inches. The surgeon who was called said that it was one and a half inches deep and had divided the nerves, but he only sutured the margins of the wound. Sensation was lost over the lower left side of the occiput, the lower anterior triangle of the neck, and the area supplied by the descending cervical nerves, the outer side of the arm and of the extensor surface of the forearm, and the thumb and index fingers. At first the arm was useless, but a month afterwards the patient could flex and extend his fingers and move his thumb, but the muscles of the forearm were wasted. There was complete paralysis of the deltoid, biceps, coraco-brachialis, brachialis anticus, triceps, and scapular muscles. The pectorals were very weak. Supination and pronation of the forearm were very defective. The flexors and extensors of the wrist and fingers acted well to faradaisation, as did also the serratus magnus, infra-spinatus, and rhomboidei. The deltoid, supra-spinatus, pectoralis major, biceps, triceps, coraco-brachialis, brachialis anticus, and supinator radii longus gave no response. To the constant current the muscles supplied by the median nerve reacted when one rheophore was placed over the scar and one on the muscles, but not those supplied by the supra-scapular, circumflex, musculo-cutaneous or musculo-spiral nerve to the triceps. It was concluded that the cord formed by the union of the fifth, sixth, and seventh cervical nerves, just above where the supra-scapular nerve comes off, must have been divided. On the fortieth day after the injury a three-inch incision down to the posterior border of the sterno-mastoid was made, dividing the platysma and the deep cervical fascia. Some small nerves, probably the descending cervical, were seen. These were pulled backwards and by carefully deepening the wound the distal end of the cord mentioned was found. The proximal end which was slightly bulbous was found half an inch above this. The ends were trimmed and united by kangaroo sutures. Some recovery of motion and sensation was evident soon after the operation, and this steadily increased until the patient had a useful arm. When last heard of he had recovered power in all his muscles except the deltoid which was improving, and he had regained sensation except in the area supplied by the circumflex nerve.

ACUTE AORTITIS AS A COMPLICATION OF FACIAL ERYSIPELAS.

THOUGH infective endocarditis is one of the recognised complications of erysipelas the very similar lesion, acute arteritis, is almost unmentioned in medical literature. Moreover, our present knowledge that the former complication is due to infection of the endocardium would lead us to regard the latter as a possible result of the same process. As long ago as 1867 Ponfick called attention to endarteritis, principally of the aorta and of the circle of Willis, in erysipelas; he considered it almost constant and described the lesions, especially histologically. His views appear to have been unconfirmed and forgotten until quite recently, when MM. Thoinot and Griffon brought the subject before the Société Médicale des Hôpitaux and read notes of the following case. A woman, aged fifty-three years, entered hospital about a month after an attack of facial erysipelas, from which she had not properly convalesced. General weakness, difficulty of breathing, insomnia, and constant headache remained. On the second day a relapse of the erysipelas occurred, but only in the form of a small patch on the face. But the dyspnœa increased and became even agonising, and the temperature rose to 104·4°F. There were no signs of pulmonary disease to account for this, but a diastolic aortic murmur was heard. She became convalescent a second time, but soon the symptoms again appeared and also albuminuria, œdema of the legs, and lancinating pains in the sternal region. The symptoms increased in severity, the urine became suppressed, and finally she died, about two months after the onset of the relapse of the erysipelas. A necropsy showed considerable dilatation of the aorta and two kinds of lesions—recent acute arteritis of the arch engrafted on old atheroma. The former was characterised by rounded fibrinous deposits of variable size, more elevated in the centre than at the margins, of an amber colour. Microscopic examination showed all the appearances of acute inflammation of the aorta, in addition to those of atheroma. There was a sero-fibrinous effusion in the right pleura. The kidneys

showed signs of acute inflammation. MM. Thoinot and Griffon point out that the diagnosis of acute aortitis might have been made clinically from the murmur, the agonising presternal pain, and the dyspnœa which was unexplained by any signs of disease in the lungs. No doubt the atheroma was a predisposing cause of the acute inflammation, just as old cardiac disease predisposes to infective endocarditis, as was shown in THE LANCET of Sept. 25th, 1897.

MIDWIVES IN ALGERIA.

MADAME CHELLIER, to whose good work as a medical pioneer in Algeria we recently alluded,[1] has succeeded in establishing three French midwives in different parts of that country, and already their services are said to be highly appreciated by the native population. Of course three midwives are but as a drop in the ocean; but small beginnings often make big endings, and it is Madame Chellier's intention to found seven more midwifery posts in the province of Constantine, four in that of Algiers, and two in Oran. As a writer in a Parisian medical journal observes: "The unanimity with which the natives of all ranks have accepted the introduction in their midst of foreign residents and given them the *entrée* of their most private apartments is the best guarantee for the success of this philanthropic enterprise."

CITY COMPANIES AND HOSPITALS.

A LETTER appeared in the *Morning Post* of Nov. 15th which ran as follows:—

To the Editor of the Morning Post.

SIR,—I think it is not generally known that four of the twelve chief City Companies have agreed to open and endow a ward of thirty beds at St. Thomas's Hospital in memory of the Queen's Diamond Jubilee. As this means an expenditure of at least £2500 a year I think these City guilds have done well, besides the thousands a year they grant to all London hospitals.—Yours, &c.,

Nov. 13th. CITIZEN.

We are sorry to say, however, that the authorities of St. Thomas's Hospital inform us, in reply to our inquiries as to the matter, that no such action has been reported to them. We sincerely hope that at no very distant date the treasurer of St. Thomas's Hospital may be advised of such action which would not only be a worthy memorial of the Diamond Jubilee but also in thorough accordance with the traditions of the great City companies.

FACIAL NEURALGIA.

AT the recent meeting of the Association of German Naturalists and Physicians reported in the *Neurologisches Centralblatt*, an important discussion took place on this subject. Dr. Böttiger, of Hamburg, read a paper, in which he divided pains occurring in the region of distribution of the fifth nerve into four varieties, neuralgic, neuritic, psychical (or hysterical), and rheumatic. He insisted especially upon the clear distinction between the first two varieties, more particularly in reference to their etiology. Whilst neuritic pains were the result of toxic conditions or infective disease, neuralgic conditions were most frequently the result of local conditions, especially local chills. Treatment for such neuralgic conditions must as a rule be symptomatic. But in certain cases no doubt general hygienic and dietetic conditions—treatment by drugs and by mechanical and physical measures and also by electricity—were effective. He recommended in recent cases, especially occurring in young children, treatment by such means, but was of opinion that old-standing cases, especially in patients of advanced years, were only amenable to surgical measures. In the discussion which followed Dr. Bruns, of Hanover, said that he regarded the distinction between neuritic pain and neuralgic pain as an artificial one, for many of the severest neuralgias were determined by sclerosis of the blood-vessels of the nerves. He thought that there were certain cases in which the pain came in the second and third divisions of the fifth nerve in old people and was especially excited by eating and speaking, in which any treatment except surgical was useless. Dr. Rump, of Hamburg, agreed to some extent with Dr. Bruns. He had, however, known of one case in which operation failed to cure, but which was permanently relieved by the use of galvanism.

[1] THE LANCET, Sept. 18th, 1897, p. 734.

A NEW RESEARCH INTO THE MUSCLES OF RESPIRATION.

RUDOLPH FICK publishes in his *Archives of Anatomy and Physiology* a paper on the Muscles of Respiration which well repays perusal. In the first part of his paper he refers to the results of other investigators especially in relation to the intercostal muscles, but the latter part is an account of his own original investigations. The observations of other investigators have all been made with the internal intercostal muscles dissected, and their action determined by direct inspection. In those of Dr. Fick all the costal muscles were left intact. He first examined the auxiliary muscles of respiration in the neck and proved that they were absolutely inactive in normal quiet respiration and only came into action in isolated extraordinary, deep, sighing respirations, the result of their action being to elevate the thorax *in toto*. Next the auxiliary muscles of respiration and the diaphragm were paralysed by severing their nerves in the neck, and the action of the abdominal muscles eliminated by dividing them. It was then found that the respirations continued in normal rhythmic manner, the difference between inspiration and expiration (apparently active) measured through a tracheal cannula being 66 mm. of water. These experiments taken in connexion with the geometrical deductions contained in the early part of the communication proved that normal quiet inspiration is the effect of the contraction of the external intercostal and intercartilaginous muscles, and that expiration is effected by the internal intercostal muscles. Bergerdal and Bergmann in Stockholm have arrived at the same results by similar experiments.

THE annual dinner of the staff and past and present students of the Dental Hospital of London will be held on Saturday, Dec. 4th, at the Hôtel Métropole (Whitehall Salon), under the presidency of Mr. A. S. Underwood, M.R.C.S. Eng., L.D.S. Gentlemen either now or formerly connected with the hospital or medical school who may through inadvertence not have received special notice and who may desire to be present are requested to communicate with the Dean at the Dental Hospital, 40, Leicester-square.

A BREAKFAST meeting of the British Medical Temperance Association was held at the Cannon-street Hotel at 8 o'clock on Thursday morning, Nov. 18th, 1897. Dr. Barlow and Mr. Victor Horsley addressed the meeting.

DR. J. ROSE BRADFORD, the Brown Professor, will deliver two lectures on Atrophy and Hypertrophy of the Kidneys at the University of London on Nov. 23rd and 30th.

THE Buchanan Medal of the Royal Society has been awarded this year to Sir John Simon, and the Davy Medal to Dr. J. H. Gladstone.

THE first lecture in connexion with the Jacksonian Lectureship, founded by the Neurological Society in honour of Dr. Hughlings Jackson, will be delivered by him at

11, Chandos-street, W., on Wednesday, Dec. 8th, 1897, at 8.45 p.m.

WE deeply regret to announce the death of Dr. James Cagney, which took place yesterday (Thursday) morning. Dr. Cagney was suffering from typhoid fever and succumbed to sudden cardiac failure.

LEICESTER AND SMALL-POX.

IN connexion with small-pox and vaccination so much has been heard of Leicester and the "Leicester method" that the publication of Dr. Sidney Coupland's report to the Royal Commission on Small-pox in that town ought to be welcome alike to medical men and to politicians. Up till now the main sources of information regarding Leicester and its doings have been anti-vaccinationist. A large number of witnesses were sent up by Leicester to the Royal Commission, and one of these, Mr. J. T. Biggs, was in the witness-box for many days. The *Vaccination Inquirer*, also, has for years past dealt very freely in statements regarding Leicester, and the country has been stumped by orators proclaiming the virtues of the Leicester method. The present report by a thoroughly competent recorder of observed facts, appointed specially by the Commission to make an inquiry into the Leicester outbreak of 1892-93, affords the first opportunity of checking some of the statements and is of great value notwithstanding that the facts recorded occurred five or six years ago. Needless to say the report is not newly written though it is newly published.

In the first place it is necessary to be quite clear, or as clear as may be, regarding what is, and what is not, the Leicester method of dealing with small-pox, and here, to avoid if possible charges of misrepresentation, it will be well to take as our authority leading supporters of the method. Mr. Biggs stated[1] that when a case of small-pox is reported an inspector immediately visits the infected house, endeavours to ascertain where the disease was contracted, where the patient has been working and visiting, and his movements generally for ten or twelve days previously. All persons who have visited the infected house are seen and all factories and workshops where other members of the family have been employed are visited. Immediately on removal of the patient the house is fumigated with sulphur, liquid disinfectants are freely used in the drains and about the yard, and the ashpit is emptied and disinfected. Next day the bedding is treated by the hot-air process in a disinfecting chamber. An endeavour is made to prevail on all persons who have been connected with the infected house to go into quarantine, but "compensation for loss of time is *not* offered." Quarantine is carried out at the hospital in a building near the small-pox wards, and "this period of rest is made to be of so pleasant and agreeable a character that at its expiration many have been reluctant to leave the hospital." But, above all, there is no compulsion. A considerable number have refused quarantine and have taken their own way. Also it is strenuously denied that vaccination forms any part of the method. Mr. Biggs says: "During the sixteen years from 1874 to 1889 inclusive no fewer than thirty-three importations—mostly from well-vaccinated districts—and a large number of successive outbreaks of small-pox were successfully STAMPED OUT. The town was thus saved from the further spread of the disease, with its possible ravages, by the LEICESTER METHOD of treatment *without recourse to vaccination*, and also without the slightest appeal to arbitrariness on the part of the authorities or any infringement of personal liberty."

A Special Commissioner who reported to THE LANCET in 1886 had stated otherwise as regards vaccination being a part of the method. He wrote that "all the persons in the house of the patient are vaccinated or re-vaccinated." In justice to Mr. Biggs we quote his reply, at the same time noting that our Commissioner visited Leicester in the earlier part of 1886, and that he was writing not of the future but of the past. Mr. Biggs said "Of fifty-five persons who voluntarily went into quarantine during the three years 1886-88, only twelve were vaccinated or re-vaccinated whilst in quarantine. If to these twelve we add three others who underwent the operation immediately before entering the hospital, there remain forty persons, or 72·7 per cent. of the above fifty-five who were neither vaccinated or re-vaccinated during the quarantine period." Now it happens that of these fifty-five, two, and two only, had been quarantined *previously* to our Commissioner's visit, and that both of these had been also re-vaccinated. That was in 1886. In 1887, of fourteen persons quarantined, it appears from a table submitted by Mr. Biggs to the Vaccination Commission, that seven were vaccinated in connexion with their quarantine. In 1888, however, only six of thirty-nine were so vaccinated. Mr. Biggs gave no information as to how many of the persons who were not vaccinated at the time of their quarantine had previously had small-pox, nor how many consisted of vaccinated children or re-vaccinated adults. At the time in question, be it remembered, vaccination of infants was not neglected in Leicester as it is now. In the fourteen years 1872-85, the average rate of neglect (children "not accounted for") was under 21 per cent. Almost certainly, therefore, many of the quarantined did not require vaccination and, needless to say, our Commissioner would have that in view in making his statement as to the practice previously to his visit in 1886. Very likely, however, some of those who were quarantined in 1887 and 1888 did require vaccination and were not vaccinated. But what has that to do with our Commissioner's statement?

It was *after* he had made his report, *after* public attention had been called to this feature in the dealings of Leicester with small-pox, *after* the Leicester anti-vaccinationists (some of whom, including Mr. Biggs, were also members of the sanitary authority) had been put on the defensive, that these persons were quarantined without being also vaccinated. Our Commissioner was not prophesying as to what course would be taken with regard to the vaccination of quarantined persons after his report had been published. The medical officer of health, who would naturally be acquainted with the Leicester practice both of his own time and of his predecessor's, wrote as follows in his report for 1886:—"Small-pox: The one case met with was in the person of an artisan. ..... The usual prompt measures were adopted; the patient was removed to the small-pox wards, and two other persons who had been in contact with him were subjected to fourteen days' quarantine and were re-vaccinated. ....." These were, it would appear, "the usual prompt measures." What then has Mr. Biggs's statement regarding 1887 and 1888 to do with the statement made by our Commissioner in 1886? Obviously nothing. Yet a connexion had to be established and here is how the Leicester anti-vaccinationist forges the bond of union. The italics are ours. "*Applying the same percentage to the 128 persons quarantined before 1886*, we find a further number of 35 persons who voluntarily submitted to the operation, who, when added to the other 15, make only 50 for the extended period. Thus, out of a total of 183 persons who had passed through the quarantine wards since the introduction of this system in 1877, *no fewer than 133 were neither vaccinated nor re-vaccinated whilst in hospital.*"

Here, then, Mr. Biggs discloses the origin of his statement regarding the 133. The disclosure was published in November, 1892. But what had he previously told the Royal Commission? After having dilated on the iniquity of THE LANCET and its Commissioner he says (June 10th, 1891): "The total number of persons who have been placed in quarantine since this method was introduced in 1877 is 183, and of this number 133 were neither vaccinated nor re-vaccinated either immediately before entering or whilst in the hospital. I think that this fact thoroughly disposes of the statement which has been made in regard to the compulsory vaccination and re-vaccination of all persons taken into our quarantine wards." Passing by the fact that our Commissioner, instead of speaking of compulsory vaccination and re-vaccination, had distinctly said, "Actual legal powers do not exist," and had explained that pressure could be applied without such powers,—passing by this fact, let us note what Mr. Biggs gave as the origin of his statistics, 183 and 133: (Q. 16,443) "That statement is based upon private information from the medical officer? *Yes; upon private information from the medical officer and from the sanitary inspector.*" (The italics are ours.)

It was in this manner that Mr. Biggs endeavoured to discredit before the Royal Commission THE LANCET Commission of 1886. But in the end of 1892 he states, not to

[1] Vaccination Inquirer, November, 1892.

the Commission, but in the pages of the *Vaccination Inquirer*, that his figures were obtained as we have above quoted—by a calculation based on the experience of only the last three years of the period, all but two of the cases having occurred after our Commissioner had written his article in our pages. We think it best to state these facts without comment of any kind. Comment, indeed, would be superfluous.

Mr. Biggs also fell foul of THE LANCET Commissioner with regard to the vaccination of the sanitary and hospital staff. He said: "The assertion that on the occurrence of small-pox the officials brought into contact with the case—the medical officer of health, the inspectors, the matron, and nurses at the hospital—are all vaccinated or re-vaccinated, applies to ten persons. They were in office when THE LANCET agent visited the town. Four of these not having been vaccinated since infancy and one not for nineteen years, the term of their 'protection' has theoretically expired." Needless to say, our Commissioner neither said nor suggested that these officials were vaccinated or re-vaccinated "on the occurrence of small-pox"—sometimes repeatedly in a single year in Leicester—and Mr Biggs knows perfectly well that neither THE LANCET nor any other responsible authority has suggested such frequency of repetition of vaccination. Without attempting to judge between our Commissioner and Mr. Biggs, we will assume that an interval much too long for safety really had elapsed since the vaccination of five of the staff. Indeed, Mr. Biggs is rather supported here by what Dr. Coupland ascertained regarding the hospital staff at the time of the outbreak of small-pox in 1892-3. At that time there were six members of the staff who had refused re-vaccination, and thirty-four who were looked on as already protected against small-pox, a few of them by having had small-pox, but all the others by re-vaccination. How did it fare with these? Of the thirty-four, one who had been re-vaccinated ten years before had a mild attack. The other thirty-three escaped. Of the six, "the only one ..... who escaped attack was the matron, who visited the wards occasionally but took no part in the actual nursing of the cases."[2] The other five took small-pox, and one of them died. What better control experiment could be thought of than this?

In connexion with these cases of small-pox among nurses, however, a curious light is thrown on Mr. Biggs's mental attitude towards vaccination. Reverting to his criticism of our Commissioner's statement as to the vaccinal condition of the officials we call attention to the following: "Four of these not having been vaccinated since infancy and one not for nineteen years, the term of their 'protection' has theoretically expired." Coming now to the hospital staff in the 1892-93 outbreak and to the six who "although they had not previously been re vaccinated refused to submit to the operation"[3] we find, as already mentioned, that five of the six were attacked and one died. One of the five had ultimately consented to the operation, "but it was only performed on the day that she showed premonitory symptoms of small-pox." We know not whether the six in 1892-93 included the five spoken of by Mr. Biggs in the above quoted passage referring to 1886 but it matters not, as they belonged to the same class as to whom Mr. Biggs insisted that "the term of their protection had theoretically expired." Will it be believed that when five of the six in 1892-3 had been attacked by small-pox, Mr. Biggs wrote thus regarding them to the London *Star*? "During the present outbreak, which began in September last, five of the nurses and attendants at the hospital, all well vaccinated (one of the nurses being re-vaccinated), have been attacked with small-pox. One of these, a very bad case, died of confluent small-pox." The letter in which Mr. Biggs asserted that after nineteen years protection had theoretically expired was printed in the *Times* of Oct. 15th, 1887, and the letter in which he described the cases of 1892-93 as well vaccinated and one of them as re-vaccinated, is to be found in the *Star* of March 1st, 1893.

In order that our readers may have before them the full facts regarding these nurses we turn to Dr. Coupland's Report, p. 33. The ages of the five were forty three, forty-five, twenty-five, twenty, and twenty-three years. All had been vaccinated in infancy. The three younger patients had mild attacks. The two older had severe attacks, and one of them who had been intemperate died. It was one of the younger patients who was re-vaccinated during the premonitory symptoms of the attack, and who was described in Mr. Biggs's letter to the *Star* simply as "re-vaccinated." The others, in spite of their protection having "theoretically expired," he described as "well vaccinated."

In the same line of things it may be noted in passing that to a conference of anti-vaccinationists held in February, 1893, Mr. Biggs declared that the tramp with whom the Leicester outbreak began "was well vaccinated." Dr. Coupland's description (p. 26) is that he had "a smooth, small cicatrix on the arm where he said that he had been vaccinated in infancy." He was thirty-five years old—far more than "nineteen years" from infancy—and there was no evidence that he had ever been well vaccinated.

(To be continued.)

[2] Dr. Coupland's Report p. 33.
[3] Royal Commission's Final Report, p. 82.

ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD, 1895-96.

THE supplement of the medical officer to the twenty fifth annual report of the Local Government Board is, as its predecessors have been, full of interest not only to the medical profession but to all who concern themselves with the progress made in our knowledge of the means of combating disease. The student of the volumes which are annually issued by the medical department cannot fail to be impressed with the great strides which this knowledge has made in the quarter of a century which has passed, and of the immense gain it has been to this country to have so much reliable scientific knowledge made available by the medical department for the guidance of the administrations of the Local Government Board and of the sanitary authorities which act under its supervision. The immensity of the work which the medical department has done during the year cannot be appreciated by any reader of the volume under notice who is not himself familiar with the amount of labour which each item referred to involves. Thus the long lists of local inquiries held in connexion with proposals of local authorities as to hospital provision, as to whether orders should be issued in respect of the removal of excrement and refuse removal, as to the incidence of disease in particular places and to their sanitary administration, as to the sanitary condition and administration of a number of districts, and as to river pollution and water-supplies, have only passing notice. Sir Richard Thorne gives account in the main only of inquiries from which some lesson of general application can be learned, but of these there are many which bear ample evidence of the ability with which the work of the department is directed and of the value of its investigations.

In the matter of vaccination Sir Richard Thorne has to record that the marked and almost continuous increase in the amount of default which has been in progress during the last seven years received in London a slight check in respect of 1893, but in the provinces it underwent still further augmentation. This regrettable circumstance is no doubt due to the delay in the presentation of the report of the Royal Commission on Vaccination, boards of guardians in numerous instances regarding the appointment of this Commission as sufficient reason for suspending the operation of the vaccination law. Indeed, the report of this Commission itself contains evidence of this neglect of many of the boards, and as a result some 16·4 per cent. of the children born in England and Wales in 1893 are left susceptible to small-pox. It is deserving of note that the number of children returned as insusceptible to vaccination has now reached so high a figure as to represent in England and Wales more than one child in every 300 born, and in London more than one child in every 200 born. The explanation of this extraordinary result is not obvious, but the subject deserves the serious attention of the profession. Sir Richard Thorne has abundant material before him to show that "true insusceptibility to vaccination is very rare," for the Local Government Board's own vaccinators, who during the last fifteen years have performed no less than 95 677 primary vaccinations, have not met with a single case of insusceptibility; and further, Sir Richard Thorne points out

that the experiences of these officers does not stand alone, "the same result has followed on the vaccination of many thousands of infants in the hands of other public vaccinators." A record, therefore, of 3394 cases of insusceptibility to vaccination in 1893 cannot fail to engage the attention of Parliament in the next session, when it may be presumed the subject of vaccination will be under discussion.

Of the investigations of the cause of disease prevalence, of which the report gives account, perhaps the most interesting is that conducted by Dr. Buchanan into an outbreak of enteric fever in the village of Wycombe Marsh. High Wycombe had been found by Dr. Wheaton to abound with the conditions which foster enteric fever and with the result that might be expected, but the interest of the etiologist centres less in High Wycombe itself than in the opportunity which the sewage farm was found by Dr. Buchanan to give for the production of enteric fever in Wycombe Marsh. The inquiry was in no sense an easy one, and, indeed, unless undertaken by an officer having in high degree the ability to solve a complex problem, the actual circumstances in which the inhabitants of Wycombe Marsh suffered from the High Wycombe sewage-farm would not have been appreciated. The sewage of High Wycombe is chemically treated, and the sludge is pumped on to the land to dry, the more liquid sewage being made to flow on to the sewage-farm, whence, after percolation through the soil, it passes by deep pipes into the back river, a tributary of the River Wye. This back river passes through the farm and is dammed at a mill lower down. This damming of the back river led it to overflow its banks and flood a meadow, which had thus been under water during some weeks at the end of 1895. Subsequently to September of that year cases of enteric fever occurred in Wycombe Marsh, the houses of which are supplied with water from wells in their gardens. Leaky cesspools exposed some of these wells to pollution, but the distribution of the cases of disease did not coincide with that which might have been expected if this had been the cause of enteric fever, indeed no hypothesis met the required conditions other than that the subsoil water supplying the wells had been polluted by the soakage of the back river water through the meadow which it flooded. That there was intimate relation between the back river and some of these wells was shown by the fact that the water in these wells rose when the water in the back river was high. But the circumstance that made the connexion between the flooding of the meadow and the pollution of the Wycombe Marsh wells a practical certainty was the coincidence in point of time between the occurrence of the cases of enteric fever and the damming of the back river. Before September the mill had been disused and hence the water flowed readily away, but in September the mill again came into operation, the river was dammed, and the results described followed. Sir Richard Thorne points to the fact that especial interest attaches to this outbreak because it illustrates a danger which may devolve on one community as the result of works carried out solely in the interests of another community. Dr. Buchanan's inquiry leads the reader of his report to speculate upon the question whether other sewage schemes have been adopted which may in their turn be similar causes of danger. The circumstances of the Wycombe Marsh outbreak undoubtedly suggest the need for careful examination of sewage works which have not hitherto been thought of as possible sources of risk. In his observations on the prevalence of enteric fever in High Wycombe Sir Richard Thorne observes that "accurate knowledge as to the extent of any prevailing preventable disease was so far a matter of indifference to the town council who constitute the sanitary authority of the district that they had not cared to adopt the Act for the Compulsory Notification of Infectious Diseases." The censure implied in these words is well deserved, but we may not unreasonably ask if there is so strong a moral obligation upon a sanitary authority to require notification, whether the time has not arrived when Parliament should impose a Statutory obligation on all such bodies. The very large extent to which this Act has been adopted, the fact that the system of notification was imposed upon London without question and without a murmur from its inhabitants, appears to us to indicate that the time has fully arrived when Parliament might and should take this step.

Sir Richard Thorne includes in his volume two reports illustrating the spread of diphtheria by elementary schools. The first of these, by Dr. Sweeting, relates to a severe outbreak of the disease at Llanfynydd, in Carmarthenshire. This village is evidently an example of sanitary neglect. Dampness of houses, water-supplies exposed to constant risk of poilution, privy accommodation wanting and when existing serving to pollute soil, air, and water; such is the record of Llanfynydd. The beginnings of diphtheria remind the reader of this report of Sir Richard Thorne's early observations as to the manner in which this disease increases in intensity. Undefined throat illness first occurred among the children attending the national school, until at last well-defined diphtheria was recognised, with the result that the school was closed; but the mischief which the villagers sufferred had not come to an end when fifty-two persons had been attacked and seventeen had lost their lives. Here, again, the absence of any requirement as to notification of infectious diseases tended to keep the sanitary authority in ignorance of the need for their intervention. The story of this village, Sir Richard Thorne says, is by no means an uncommon one in the experience of the department. "It is one of persistent sanitary neglect, in which preventable disease, getting a foothold on the population before it is recognised, finds everything at hand to favour its fatal diffusion." The second outbreak of diphtheria, investigated by Dr. Reece, occurred in the borough of Flint. Between February and mid-July, 1894, fourteen cases of diphtheria were notified in a population of 5000. Then there was a lull for some two months, followed by a steady increase in the number of cases. At this time the disease had obtained a footing in the schools, and Sir Richard Thorne tells us that at the time of Dr. Reece's visit, 288 children were in actual attendance at one of the five elementary schools in the district of which no less than 113 admitted that they had suffered from "sore-throat" or glandular swellings styled "mumps" during the previous five months, 84 of whom had been absent from school by reason of these ailments, "but no system of exclusion or school closure had been adopted by the town council, and this notwithstanding the fact that at one stage of the outbreak the medical officer of health advocated the closure of the schools." Several cases of inflamed throats were, indeed, on the same occasion, found amongst scholars and teachers. "Under circumstances such as these," says Dr. Reece, "it can scarcely be wondered at that school attendance has been the means of spreading diphtheria in Flint."

(To be continued.)

THE INDIAN FRONTIER.

As we, in common with most people, supposed would be the case, the opposition of the frontier tribes has assumed the character of a harassing guerilla warfare. Night attacks on camps and attacks on convoys and small or detached bodies of troops, on foraging parties, or on the rear of brigades have been, and are likely to continue to be, of frequent occurrence. The native tribes, with their intimate knowledge of the country and with every mountain pass, defile, and, in short, with every nook and corner in it, are at a great tactical advantage in this respect; it is quite easy for them to conceal themselves and attack our troops and convoys at various points most advantageous to themselves, and the so-called "sniping," besides its disturbing effect on the occupants of camps, causes in the aggregate much loss of life and many wounded. The late massacre of an officer and men of the Kapurthala Sikhs is much to be deplored. The circumstances attending this occurrence, with the blazing grass and jungle on one side and the foe on the other, and the Kapurthala Sikhs at bay fighting for their lives, make up a stirring and tragic picture of Eastern warfare. The Sikhs and Goorkhas are the best of soldiers, and it is much to be regretted that the source from which they are supplied is far from being an unlimited one. The weather is much colder—especially the nights and early mornings—but the force, generally speaking, enjoys excellent health The sick and wounded are doing well, the hospital service is full of work, and all concerned are full of zeal and energy.

The latest news from India is, on the whole, of a more satisfactory character. The Orakzais have ascertained the terms of submission required and it is believed that

recognising the futility of further opposition they will accede to them, in which case the Afridi tribes may probably come in and make their submission. From a purely military point of view the campaign has so far been successful, but the occupation of Tirah will be attended with great difficulties. The Bara Valley, fertile as it is, cannot furnish the food and forage supplies required by such a large force and foraging parties sent out to collect these usually have to confront attacks from the tribes who have adopted the policy of guerilla tactics. Moreover, the cold will soon become severe with probably ice and falls of snow. Additional accommodation for housing the troops will then be required and the transport of stores and commissariat supplies to the front will become more and more difficult, and diseases of the respiratory organs among the native troops may be expected to prevail. The future policy to be adopted will be greatly influenced, no doubt, by these considerations and by the events that are now taking place. India most probably cannot support the cost of the large force that will be required for the occupation of the conquered country and it is not likely that the Afridis will become reconciled to our presence there—at any rate not for a long time. If they come in, proffer their submission, and sue for terms, it seems probable that, having already read them a severe lesson, the "politicals" will not lose the opportunity of settling the matter on the best practicable terms they can. The expeditionary force will in that case march through the country and retire from it rather than incur the present and future expense of remaining. According to the latest telegraphic intelligence General Kempster's brigade has captured at Mullah Akbar's fort compromising correspondence which is alleged to implicate certain Afghan officials. The situation as it stands at present has many grave political considerations to be taken into account.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Nov. 11th, the President, Sir WILLIAM MACCORMAC, Bart., being in the chair.

The Museum Committee, in their report, recommended that in future the Museum should be open from 10 o'clock to 5 o'clock between March 1st and August 31st, and during October, and from 10 o'clock to 4 o'clock between Nov. 1st and the last day of February. The recommendation was adopted.

Felstead School and Watford Endowed Schools were added to the list of recognised places of instruction in Chemistry, Physics, and Practical Chemistry; and the South-West Polytechnic Institute, which was already recognised for instruction in these subjects, was added to the recognised places of instruction in Elementary Biology.

The PRESIDENT stated that the Bradshaw Lecture would be delivered by Mr. Alfred Willett on Wednesday, Dec. 8th, at 5 P.M., and that the subject of the lecture would be the Correction of Certain Deformities by Operative Measures upon Bones.

The SECRETARY reported that notices of resolutions for the meeting of Fellows and Members on Nov. 18th had been sent in. (These have already been reported in THE LANCET of Nov. 13th, p. 1262.)

A letter was read from the Registrar of the Mason Science College, Birmingham, requesting the Council to appoint a governor in accordance with the provisions of the Mason University College Act, 1897. Sir William MacCormac was appointed for five years.

The Council, after discussion, decided to defer the further consideration of the letter from the Parliamentary Bills Committee of the British Medical Association asking the Council to join a deputation to the Secretary of State for War on the subject of the Army Medical Service.

Mr. MACNAMARA moved, and Dr. WARD COUSINS seconded, the following resolution: "That the President of the Royal College of Surgeons of England be empowered to arrange with the President of the Royal College of Physicians of London to approach the Secretary of State for War to impress upon him the necessity which exists for granting medical officers of the British army substantive army rank and military titles in a consolidated army corps."

The resolution was carried

THE POLLUTION OF WATER-SUPPLIES BY ENCAMPMENTS OF HOP-PICKERS, CASUAL WORKERS, TRAMPS, ETC.

SIR DOUGLAS GALTON, F.R.S., presided over a well-attended meeting of the Sanitary Institute at the Parkes Museum on Wednesday last, Nov. 17th, when Professor W. H. Corfield opened a discussion in reference to the Dangers of Pollution of Municipal Water-supplies and Miss Chreiman read a paper in reference to the Sanitary Control of Hop-pickers.

Professor W. H. CORFIELD, after referring to some lines of Virgil to show that the danger of polluted water was recognised even in Vigil's time, said there was no doubt whatever that diarrhœa could be communicated by means of polluted drinking-water, but he did not know nor was he aware that anybody knew of any serious outbreak which could be attributed to that cause. He felt strongly that summer diarrhœa in many instances was closely connected with this cause. Serious outbreaks of scarlet fever and diphtheria were not traceable to drinking-water either on a large or small scale. Diphtheria might be communicated by a deliberately contaminated water-supply. Cholera could be distinctly shown to be communicated by contaminated water-supplies. Professor Corfield then quoted a case which had come under his own observation which showed that a person might have enteric fever and go about his work until the third week and then die almost immediately. People might thus spread the poison unknowingly. In the old days of Millbank Prison it was undoubtedly a hotbed of typhoid fever. There were constant cases of abdominal disorders; but when the authorities ceased to use the water which they baled out of the Thames and obtained a supply from the artesian wells which serve the Trafalgar-square fountains these diseases at once disappeared. It was generally assumed that enteric fever and cholera poisons were distributed in the same way; but while it was true that both were conveyed by water there was a difference between the two which was not yet understood. Lyons, for example, was a hotbed of typhoid fever, but had never had a case of cholera; the outbreaks that had occurred outside had never spread into that city. So well was this known that during cholera epidemics people went to Lyons, knowing it would not spread there. Professor Corfield concluded by reading the following letter, which he had received from a medical gentleman in Kent: "The hop-growing extends from a little west of this place (Hildenborough) eastwards to beyond Maidstone, and during the season of hop-picking the country is covered with encampments of people of the least sanitary class, frequenting by preference the proximity of streams and rivers for the convenience of obtaining water and of washing their clothes. It is a confirmed belief amongst this class of people that the hop fields are very health-restoring to the feeble, the sick, and the convalescent, and no doubt that many a convalescent from typhoid is taken to the hop fields, and their linen, which may not have seen the tub for weeks, is washed in the adjacent stream. Should any of the streams become polluted during the present outbreak at Maidstone by cases removed from that town during convalescence it might spread the disease into the villages and amongst the rural population. I have not seen this state of things alluded to in any of the correspondence in the medical or lay press and I think that it is not known what a large number of people are dependent for their water for daily use on the streams and rivers of this county."

Miss M. A. CHREIMAN in her paper described the condition of the hop-pickers and their surroundings which had come under her notice. She described the state of things as being most unsanitary and pleaded for increased sanitary control by the local authorities and better provision for the hop-pickers by their employers. Referring to a reservoir at Farleigh she said she had been told that it had not been cleaned out for eighteen years and when it was being cleaned dead babies were found in it.

Mr. G. H. FOSBROKE (Worcester) spoke of the utility of Section 314 of the Public Health Act, 1875, which gave local authorities the power to make by-laws, but said that it failed in some cases because it left the matter optional. The word

"may" in the clause ought to be changed to "shall." The many outbreaks of scarlet fever and diphtheria which occurred in his district after the hop-picking season was over would lead him to believe that disease was imported by these casual workers.

Dr. TEW (Tonbridge), Mr. ADAMS (Maidstone), Dr. THRESH, Dr. PORTER (Stockport), the Rev. EMBLETON THOMAS, and Major L. FLOWER took part in the discussion.

THE PLAGUE IN INDIA.

ALTOGETHER apart from the frontier war the Government of India and the authorities of the India Office at home are confronted with a very grave and anxious duty in having to deal with the plague the spread and progress of which in India is a really serious matter. As was confidently expected there has been a recrudescence of bubonic plague in Western India with the advent of the cold weather, and the disease has, moreover, manifested itself in other and distant provinces and districts, cases having occurred in the Madras Presidency, in the North-West Provinces, in the Punjab, and in Central India and Rajputana. At Poona and in the towns and villages thereabout there has been an alarming increase in the number of cases during the past month; the number of patients admitted to hospital and under treatment is double what it was and the mortality is very large. According to the latest telegram (Nov. 15th) the epidemic in the city and cantonments shows no abatement. There were 630 plague patients in the Poona hospitals, and there had been 134 cases and 94 deaths during the preceding forty-eight hours. The city is completely deserted and several of the principal streets are closed. At Sholapore, Nasik, and other towns and villages there have been numerous attacks. Nasik is not very far from Deolalie, the military depôt through which our troops have to pass in their railway journey on arriving at, and leaving, India.

It will be remembered that an outbreak of plague occurred some time ago at Hurdwar, but owing to the prompt and energetic action of the local authorities the disease did not spread. Still, it is believed that it was carried into the Jullundur district of the Punjab where some cases of plague have recently occurred. The Punjab Government have taken stringent measures in regard to this outbreak. The *Standard* of the 15th inst. contains an interesting communication from its own correspondent on the plague in India and the spread of the infection in which it is stated among other things that at Hurdwar the disease was communicated to the monkeys which always congregate in large numbers on such occasions. The Government of India and the local governments are, it is needless to say, using all vigilance in their efforts to limit the spread of the disease.

Lord Sandhurst, the Governor of Bombay, visited Poona on the 29th ult., inspected the plague hospitals and camp, and expressed himself satisfied at the way in which everything was being conducted. Lord Sandhurst also visited Sholapore on Oct. 21st and inspected the hospitals and segregation sheds at that station. The exodus of people from these places has, as might be expected, been very great and much inconvenience has resulted from the want of native labour. Surgeon-General Cleghorn, C.S.I., was expected at Bombay with the view of making special inquiries into the plague.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6324 births and 4009 deaths were registered during the week ending Nov. 13th. The annual rate of mortality in these towns, which had increased in the three preceding weeks from 16·9 to 18·1 per 1000, further rose last week to 19·0. In London the rate was 19·4 per 1000, while it averaged 18·8 in the thirty-two provincial towns. The lowest death-rates in these towns were 10·7 in Cardiff, 11·7 in Plymouth, 13·3 in West Ham, and 13·9 in Gateshead; the highest rates were 23·1 in Liverpool, 24·7 in Sheffield, 25·4 in Preston, and 26·5 in Burnley. The 4009 deaths in these towns included 461 which were referred to the principal zymotic diseases, against 463 and 412 in the two preceding weeks; of these, 157 resulted from measles, 70 from diphtheria, 68 from diarrhœa 61 from whooping-cough, 59 from "fever" (principally enteric), and 46 from scarlet fever. No fatal case of any of these diseases was recorded last week in Birkenhead; in the other towns they caused the lowest death-rates in Brighton, Newcastle-upon-Tyne, Portsmouth, and Hull, and the highest rates in Bolton, Bristol, Gateshead, and Blackburn. The greatest mortality from measles occurred in Huddersfield, Sunderland, Gateshead, Swansea, Croydon, Oldham and Blackburn; from scarlet fever in Gateshead; from "fever" in Bristol; and from diarrhœa in Wolverhampton and in Bolton. The mortality from whooping-cough showed no marked excess in any of the large towns. The 70 deaths from diphtheria included 46 in London, 5 in Birmingham, 4 Liverpool, 3 in Cardiff, and 3 in Leicester. No fatal case of small-pox was registered last week in any of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospitals at the end of the week was 3777, against 3685, 3682, and 3680 on the three preceding Saturdays; 460 new cases were admitted during the week, against 342, 416, and 339 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 326 and 363 in the two preceding weeks, further rose to 420 last week, and were 14 above the corrected average. The causes of 50, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, and in fourteen other smaller towns; the largest proportions of uncertified deaths were registered in Swansea, Leicester, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the three preceding weeks from 20·3 to 18·8 per 1000, rose again to 20·1 during the week ending Nov. 13th, and exceeded by 1·1 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 16·1 in Paisley and 16·6 in Aberdeen to 21·4 in Glasgow and 23·7 in Greenock. The 599 deaths in these towns included 23 which were referred to diarrhœa, 12 to whooping-cough, 11 to scarlet fever, 7 to measles, 6 to diphtheria, 4 to "fever," and 1 to small-pox. In all, 64 deaths resulted from these principal zymotic diseases, against 79 and 70 in the two preceding weeks. These 64 deaths were equal to an annual rate of 2·1 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 15 and 16 in the two preceding weeks, declined to 12 last week, and included 8 in Glasgow and 3 in Greenock. The deaths referred to scarlet fever, which had increased from 4 to 18 in the three preceding weeks, fell to 11 last week, of which 6 occurred in Glasgow and 4 in Dundee. The 7 fatal cases of measles also showed a decline from those recorded in recent weeks, and included 5 in Greenock. The deaths from diphtheria, which had been 3 and 5 in the two preceding weeks, further rose to 6 last week, of which 2 occurred in Glasgow and 2 in Edinburgh. The 4 fatal cases of "fever" included 2 in Glasgow and 2 in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 137 and 142 in the two preceding weeks, further rose to 161 last week, but were slightly below the number in the corresponding period of last year. The causes of 35, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·2 and 21·5 per 1000 in the two preceding weeks, further declined to 19·8 during the week ending Nov. 13th. During the past six weeks of the current quarter the death-rate in the city has averaged 22·8 per 1000, the rate during the same period being 17·3 in London and 18·7 in Edinburgh. The 133 deaths registered in Dublin during the week under notice showed a decline of 11 from the number in the preceding week, and included 24 which were referred to the principal

zymotic diseases, against 8 and 12 in the two preceding weeks; of these, 10 resulted from "fever" (principally enteric), 8 from scarlet fever, 3 from diarrhœa, 2 from diphtheria, and 1 from scarlet fever. These 24 deaths were equal to an annual rate of 3·6 per 1000, the zymotic death-rate during the same period being 2·5 in London and 1·4 in Edinburgh. The deaths referred to different forms of "fever," which had been 6, 0, and 8 in the three preceding weeks, rose to 10 last week, a higher number than in any week during the past four years. The fatal cases of scarlet fever, which had been 2 and 0 in the two preceding weeks, rose to 8 last week, and exceeded the number recorded in any week during the current year. The 133 deaths registered in Dublin last week included 17 of infants under one year of age and 38 of persons aged upwards of sixty years; the deaths of infants showed a further decline, while those of elderly persons exceeded the numbers recorded in the preceding week. No deaths from violence, and only 1 inquest case were registered; and 50, or more than a third, of the deaths occurred in public institutions. The causes of 7, or more than 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-MAJOR MULVANY has embarked for Bombay. Surgeon-Captain Robinson proceeds to the Cork District for duty. Surgeon-Major A. F. Russell is posted to Fort George as Medical Officer in Charge of the Station Hospital.

Supernumerary Surgeon-Colonel Robert C. Eaton to be Surgeon-Colonel, vice C. A. Atkins, retired.

Her Majesty the Queen has been graciously pleased to confer the Jubilee Commemoration Medal on Surgeon-Major-General A. F. Preston, M.B. Dub., Principal Medical Officer in Ireland.

Her Majesty has also been graciously pleased to confer the Jubilee Commemoration Medal on Surgeon-Major-General Thomas Maunsell, A.M.S., Principal Medical Officer, Malta.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of the under-mentioned officers (Bengal) are replaced temporarily at the disposal of the Military Department:—Surgeon-Major Cunningham, Surgeon-Lieutenant Milne, and Surgeon-Captain Smith. The undermentioned officers to be Magistrates of the Second Class in the District of Satara:—Surgeon-Captain Smith, medical officer in charge of Plague Flying Column No. 2, Karad, and Surgeon-Lieutenant Robertson, on plague duty, Karad villages. Surgeon-Major T. H. Sweeney, Civil Surgeon, Benares, is appointed to officiate as Superintendent, Central Prison, Benares. Surgeon-Captain L. G. Fischer is appointed to the civil medical charge of the Almora district. Surgeon-Major Tuohy, Civil Surgeon, Agra, is appointed to the visiting medical charge of the Etawah district. Surgeon-Major Smith, Civil Surgeon, Shahjahanpur, is appointed to the visiting medical charge of the Hardoi district. Surgeon-Major Hawkins, Civil Surgeon, Moradabad, is appointed to the visiting medical charge of the Budaun and Bijnor districts.

Brigade-Surgeon-Lieutenant-Colonel Caldecott vacates his appointment in Central India on promotion to the administrative grade in the Indian Medical Service, Surgeon-Lieutenant-Colonel Dane succeeds him as civil administrative medical officer in the Central India Agency, and has his headquarters at Bhopal, Surgeon-Major Gimlette, of Rewah, going to Indore as Residency Surgeon.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant Stuart Oliver, from the London Companies Volunteer Medical Staff Corps, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment): Surgeon-Major J. Knox to be Surgeon-Lieutenant-Colonel; Surgeon-Captain W. S. Symes to be Surgeon-Major. 1st Volunteer Battalion the Royal Scots Fusiliers: Surgeon-Captain W. Sneddon, M.D., to be Surgeon-Major. 4th (Stirlingshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): James Hay Murray, M.B., to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Surgeon-Captain H. W. G. Macleod, M.D., resigns his commission.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The following officers who have been under instruction from the staff of the school have recently passed the proficiency examination conducted by the Army Medical Staff, thereby earning the higher grant for their corps and becoming entitled to promotion after completing the necessary period of service:—*Colonial Forces:* Brigade-Surgeon-Lieutenant-Colonel H. A. de Lautour, V.D., New Zealand Defence Forces; and Surgeon-Captain F. A. Foy, M.B., 1st Bombay Rifles. *Volunteers:* Surgeon-Major R. Grant, M.A., M.D., 2nd Volunteer Battalion the Black Watch; Surgeon-Captain T. C. Bailey, 2nd Cheshire Royal Engineer Volunteers; Surgeon-Captain F. C. Rogers, 4th Volunteer Battalion Cheshire Regiment; Surgeon-Lieutenant M. A. Cooke, 2nd Volunteer Battalion Gloucester Regiment; Surgeon-Lieutenant J. Robinson, 1st Volunteer Battalion Worcester Regiment; Surgeon-Lieutenant M. Richards, North London Volunteer Brigade Bearer Company; Surgeon-Lieutenant W. H. Forsbrooke, M.D., 1st Volunteer Battalion Royal Fusiliers; Surgeon-Lieutenant H. Allport, 1st City of London Volunteer Artillery; Surgeon-Lieutenant R. A. Johnston, 1st Volunteer Battalion Derbyshire Regiment; Surgeon-Lieutenant C. Rigby, 1st Volunteer Battalion the Loyal North Lancashire Regiment; Surgeon-Lieutenant J. W. Jessop, 1st Volunteer Battalion Lincolnshire Regiment; Surgeon-Lieutenant A. Whitton, M.B., 6th Volunteer Battalion the Gordon Highlanders; Surgeon-Lieutenant R. B. Sidebottom 4th Volunteer Battalion Cheshire Regiment; Surgeon-Lieutenant F. H. Thompson, 1st Volunteer Battalion Shropshire Light Infantry; Surgeon-Lieutenant T. A. Sellar, M.D., 6th Volunteer Battalion the Gordon Highlanders; Surgeon-Lieutenant J. Kyffin, 1st Hants Royal Engineer Volunteers; Surgeon-Lieutenant F. A. Brooks, M.D., 1st Essex Volunteer Artillery; Surgeon-Lieutenant T. C. Ticehurst, 3rd D.C.O. Volunteer Battalion Hampshire Regiment; Surgeon-Lieutenant A. H. Vernon, F.R.C.S., 4th Volunteer Battalion Hampshire Regiment; Surgeon-Lieutenant V. J. Blake, M.B., 5th Volunteer Battalion Hampshire Regiment; Surgeon-Lieutenant D. Smart, M.B., 2nd Volunteer Battalion The King's Liverpool Regiment; Surgeon-Lieutenant H. Dickie, M.D., 1st Volunteer Battalion Northumberland Fusiliers; Surgeon-Lieutenant H. Legh de Legh, 1st Volunteer Battalion Prince of Wales's Own Yorkshire Regiment; Surgeon-Lieutenant W. P. Peake, 1st Volunteer Battalion Leicestershire Regiment.

Surgeon-Captain R. R. Sleman, "Artists" Rifle Volunteers, has obtained a certificate of proficiency with special mention at an examination conducted by a Board of Army Medical Officers at Aldershot.

TROOPSHIPS AND HIRED TRANSPORTS.

Last May Mr. Labouchere alluded in *Truth* to the overcrowding of the hired transport *Britannia*, stating that she had arrived in England carrying about 1200 persons, whereas according to the Board of Trade certificate she had only accommodation for 692; and recently a correspondent of the *Daily Mail* instanced the case of the *Dunera*, which sailed for India with 1395 officers, men, women, and children on board in addition to the ship's company, in spite of the fact that if she were engaged in private trade her certificate would not permit her to carry more than about 680 passengers. No doubt when a private vessel is taken up for the conveyance of troops the alterations effected in her internal arrangements enable her to carry a larger number of soldiers, who do not require separate cabins, than would be possible under Board of Trade rules, but it is, nevertheless, difficult to understand how her carrying capacity could be more than doubled without entailing overcrowding. According to a note which we published last week[1] Dr. Bonnafy, of the French colonial service, found that for a period of ten years the proportion of deaths among invalids on board Government troopships and hired transports during the voyage from Saigon to Toulon, was eighteen and twenty-six respectively per thousand embarked, and yet there was no more overcrowding in one class of vessel than in the other, and the conditions of life in both were as nearly as possible alike. It would be interesting if similar

[1] THE LANCET, Nov. 13th, 1897, p. 1216.

statistics could be published regarding our own transports. The Indian troopers may have been expensive, but if it should turn out that their employment conduced to the saving of life, then most certainly their re-establishment cannot be undertaken too soon. Overcrowding at sea is one of the most fertile sources of disease and death, and should that alleged to have occurred on board the *Britannia* and *Dunera* be a fact it is impossible to believe that no harm resulted therefrom.

THE LATE SURGEON-GENERAL RICHARD GILBORNE.

A correspondent writes to the *Army and Navy Gazette*:—"The intelligence of Surgeon-General Richard Gilborne's death has been received with wide feelings of regret. He was held in high esteem by those with whom he was associated, both officially and socially. He was noted for urbanity and a quiet unassuming mien. Never has an unkind word been said of Dickie Gilborne, nor indeed did any person ever hear "Dickie" say an unkind word of anyone. A large part of the deceased officer's service was passed as a regimental surgeon in the Carabiniers; while in the administrative ranks of the Army Medical Staff he was Principal Medical Officer at Aldershot, Bombay, Colchester, and Hong-Kong. He was a justice of the peace of Folkestone, where he resided since his retirement and there became popular owing to his excellent qualities."

Her Majesty has conferred the Jubilee Commemoration Medal on Surgeon-Captain Charles Pye Oliver, M.D., Commanding the Maidstone Company, Volunteer Medical Staff Corps, in recognition of the services of the Company on Jubilee Day, when about ninety men were on duty near the Horse Guards and rendered first aid in an efficient manner to 150 cases.

Surgeon-Major A. M. Davies has been attached to the office of the Principal Medical Officer with Her Majesty's Forces in India for one year for the purpose of carrying out bacteriological and sanitary investigations in cantonments.

Brigade-Surgeon-Lieutenant-Colonel K. McLeod, M.D., retired, I.M.S., has been granted the temporary rank of Surgeon-Colonel whilst acting as a Professor at the Army Medical School, Netley.

Correspondence.

"Audi alteram partem."

PROPOSED AMENDMENTS OF THE NOTIFICATION ACT.

To the Editors of THE LANCET.

SIRS,—As this question appears to be arousing some attention owing to the action of Dr. Meredith Young and the Crewe town council, I beg to offer you the following further information. In March last I prepared a circular (of which a copy is appended) for the Bucklow rural district council, and it was issued as a *ballon d'essai* to 4 municipal boroughs, 31 urban districts, and 12 rural districts in Cheshire. Out of 47 authorities 26 made no reply whatever, 3 were neutral, and 18 were in favour of attempting to procure an Amending Act. These latter are the municipal boroughs of Crewe and Stalybridge, the urban districts of Alderley Edge, Biddulph, Hoole, Knutsford, Middlewich, Northwich, Runcorn, Sale, Tarporley, Wilmslow, and Winsford, and the rural districts of Bucklow, Congleton, Macclesfield, Northwich, and Runcorn. Here the matter rested until Crewe took the lead and petitioned the Local Government Board. The Bucklow rural district council has now sent up a letter in support of the Crewe petition (in principle, but not binding itself to every detail); and has written to the other authorities named asking them to do the same.

If you, Sirs, would support this suggestion, no doubt medical officers of health all over the country could induce their councils to communicate briefly to the Local Government Board their desire to have an Amending Act. It is now universally admitted, and therefore needs no argument, that the existing Act is very defective. I suggest that details can be left for discussion till the Bill is drafted. What is really wanted first is that the Government shall recognise the justice of our demand and shall prepare a Bill.

I note that Dr. Woodforde made this question the subject of his inaugural address to the Home Counties Branch of the Incorporated Society of Medical Officers of Health, and is in very close agreement with my views. We differ on one or two points from Dr. Meredith Young, but this is not the time to discuss differences; rather let us all be united in pressing for the preparation and production of a Government Bill, and then we can air our respective views on matters of detail.

I am, Sirs, your obedient servant,

Knutsford, Cheshire, Nov. 7th, 1897. T. W. H. GABSTANG.

CIRCULAR.

SUGGESTIONS BY THE MEDICAL OFFICER OF HEALTH TO THE BUCKLOW AND NORTHWICH RURAL DISTRICT COUNCILS, ETC., FOR DESIRABLE AMENDMENTS IN THE "INFECTIOUS DISEASE (NOTIFICATION) ACT 1889," ETC.;

To be laid before the Councils for consideration, with a view to securing the cooperation of other Councils in obtaining an Amending Act.

1. FAULT.—(Section 3 (1.) (*b*).)—Every medical practitioner called in must send in a certificate.

REMEDY.—One certificate being sufficient for each case, further certificates ought not to be required or received, more particularly where the second attendant is called in as a consultant, or is related to the first attendant as partner, principal, or assistant.

2. FAULT.—(Section 4 (2).)—Fee for every case in private practice half-a-crown.

REMEDY.—Seeing that one notification brings the infected premises to the notice of the medical officer of health, subsequent cases occurring in one house and during one illness might be paid for at a reduced fee.

3. FAULT.—(Section 6.)—Erysipelas included in list of notifiable diseases.

REMEDY.—Erysipelas to be excluded; or retained only in special cases, as (1) after childbirth, (2) after injuries, or (3) where dangerous to life.

4. FAULT.—Section 3 (1.) (*a*) and (*b*).)—*Dual Notification.* Head of family and medical practitioner both required to notify.

REMEDY.—The duty should rest upon the medical practitioner alone, being extended to the head of the family only in those cases where no medical attendant is called in.

Note.—The head of the family who subsequently calls in a medical attendant should not thereby be relieved from responsibility for the period of illness preceding such action.

5. FAULT.—(Section 3 (1.) (*a*) and (*b*).)—Notification to be made upon "becoming aware" of existence of infectious disease.

Note.—Any unscrupulous person prepared to assert that he had "not been aware" would have an unassailable defence to any prosecution, and could therefore set the Act at defiance in absolute safety.

REMEDY.—The principle already adopted in Section 116 of the "Public Health Act, 1875," viz., that "proof of innocence shall rest with the party charged," must be introduced, in some shape or other. The onus of proving "knowledge" should be removed from the complainant Council, and proof of bonâ fide "ignorance" should instead be required from the defendant.

6. FAULT.—(Section 3 (2).)—Penalty limited to fine of forty shillings.

Note.—Quite insufficient to prevent deliberate concealment of cases where strong private reasons exist for such a course—e.g., laundries, bakeries, dairies, &c., whose trade would be affected by publicity.

REMEDY.—Amount of penalty to be increased, or nature varied, for cases of proved wilful infraction of the Act.

7. Sundry minor suggestions:

(*a*) (Section 2 (*b*).)—The Act is only permissive. It might well now be made universally applicable.

(*b*) The same remark applies to the "Infectious Disease (Prevention) Act, 1890."

(*c*) If (*a*) were carried out Section 5 would become unnecessary.

(*d*) If the fee paid covers and includes all necessary postages, let it be so stated, to avoid possibility of dispute.

8. "The Public Health Act, 1875."—Section 126—*Penalties on exposure*—This requires extending, to cover the cases of infection carried about by "third persons." At present there appears to be no power under any Act to deal with a midwife spreading puerperal fever; or with casual visitors to scarlet fever cases carrying away the seeds of the disease for communication to fresh victims.

RESPONSIBILITY FOR SURGICAL OPERATIONS.

To the Editors of THE LANCET.

SIRS,—THE LANCET of Nov. 6th published an article in which my name is mentioned in referring to a surgeon's responsibility in surgical operations. The case you mention took place in the practice of Dr. Benjamin Anger and not in that of Dr. Theophilus Anger. We are two surgeons bearing the same name at the Hôpital Beaujon, but are not related to each other. It is Benjamin Anger and not Theophilus Anger that you speak of, and I beg of you to correct your mistake in your next number.—I am, Sirs, yours truly,

THEOPHILE ANGER.
Chirurgien de l'hôpital Beaujon.

105 Bd. Haussmann, Paris, Nov. 11th, 1897.

"THE HOSPITALS, THE PROFESSION, AND THE PUBLIC."

To the Editors of THE LANCET.

SIRS,—I have to thank you for publishing in THE LANCET of Nov. 6th the letter I addressed to you giving my views on

certain points of hospital management. I notice, however, that in your editorial comment, instead of dealing with these points you reiterate an accusation which you made against me in a leading article in THE LANCET of Oct. 30th, to the effect that I charged the private practitioner with inefficiency. Now, in my letter to you I took no notice of this because it seemed to me such a ridiculous affair. I was concerned for matters touching hospital management, not for mere personal attacks upon myself. But if you intend seriously to maintain the position taken up in your leading article that in matters of hospital reform a man is to be boycotted by the medical profession if he do but venture to suggest that all the error is not on the side of the hospitals, the effect must be, so far as you have any influence with the medical profession, to indefinitely postpone the proper consideration of hospital reform. It is perfectly notorious that people are not attracted to hospitals solely by motives of economy, but go there because they believe that they get something better in the way of treatment than they can obtain from some medical practitioners to whom they would otherwise have to go. Moreover, this feeling has grown up not altogether as a mere sentiment, but sometimes as the result of experience among people who have had plenty of opportunity of trying both kinds of treatment.

Anyone, then, who would deal fully and completely even with that side of the hospital problem which is included in the term "hospital abuse" must recognise both sides of the question. Perhaps the competition of the hospitals may be to some extent responsible for the starving of some classes of medical practice, but whatever the cause it is impossible not to see that in the cheaper practices, which are the alternative open to many who now go to the hospitals, there are sometimes second-rate medical attendance and medical appliances. It is idle to shut one's eyes to the fact that the hospital problem involves a consideration of the existing conditions of practice not only within but outside the hospital doors; and knowing what I do on the subject I have suggested that it is not enough merely to refuse admission to certain out-patients, but that steps should also be taken to ensure that the outside practitioner should have access to the scientific advantages offered by the hospitals as educational centres, and thus should be enabled to give to his patients the same treatment that is current at the time in the most advanced centres of medical knowledge.

I believe that the mass of the very practitioners on whose behalf you write so indignantly will be the first to recognise the advantage of being allowed free access to especially arranged post-graduate courses, recognising, as I know they do, the progressive nature of medical science and the difficulties which exist in keeping abreast of the times amid the turmoil of general practice. I consider that you are not only misrepresenting the sentiments of the medical profession, which are always in favour of progress, but are putting a great obstacle in the way of hospital reform when you say (because I have ventured to put this matter into precise words), "It will become a serious question, if these are really Sir Henry Burdett's views, whether medical men should be asked to appear on the same platform with him again for the promotion of hospital reform." Medical men are not so fond, Sirs, as you would appear from this suggestion to think they are, of being placed in a false position and of being made ridiculous.—I am, Sirs, your obedient servant,

HENRY C. BURDETT.

The Lodge, Porchester-square, W., Nov. 9th, 1897.

*** Sir Henry Burdett repeats himself. He also misrepresents our position. We insert his letter but see no reason therein to cause us to change our previously expressed opinion.—ED. L.

"THE PREHENSILE POWER OF THE HANDS OF THE HUMAN INFANT."

To the Editors of THE LANCET.

SIRS,—I have read Dr. Walter Kidd's letter upon "The Prehensile Power of the Hands of the Human Infant" with a great amount of interest. I agree with his line of argument, and particularly when he remarks that if man had any genetic connexion with the ape the "vestige" of prehension of his foot ought to be a more marked character than the corresponding "vestige" pertaining to his hand. I have read also with interest Dr. Reid's reply in THE LANCET of Oct. 23rd. To oppose Dr. Kidd's theory he introduces embryological lore; he discusses as vestiges (or rather in their relation to vestiges) the branchial arches, an embryological thirteenth rib, and the os centrale. But I fail to understand why the finding of evidence of the os centrale in the human embryo or similar discoveries in connexion with a thirteenth rib or the branchial arches should help to establish any other theory than that of the inter-relation of species. Embryological study shows us a human tail of which we should be much prouder than we should be of our developed coccygeal apparatus, but does this point to a simian ancestry? I think as far as tails are concerned we should be more nearly related to certain varieties of dogs. There is a variety of Yorkshire sheep dogs which is as tailless as is man. Does not embryology really point to a general ground plan rather than to the more generally accepted idea of evolution. Take for another example the attributes of sex: there is the stage of embryonic life when the sexual apparatus cannot be differentiated; we cannot say whether a given embryo would have developed a penis or a clitoris, a scrotum or labia majora, or a uterus masculinus, or a uterus. These appearances surely do not mean that man was evolved from a woman or a woman from a man, or that either or both were ever sexless. Of course it may be said that is not fair analogy, but I will give my reasons for asserting that it is. We know that man will have, and has always had, twelve ribs in spite of the embryological thirteenth rib. We know also that we can often find in the adult man the "rudiments" of the embryological structure, but nevertheless he has twelve ribs only, even when we go as far back as palæontology will permit. Similar repetition of fact and sequence occurs with the sexual attributes.

I am, Sirs, yours faithfully,

Reading, Nov. 14th, 1897. W. T. FREEMAN.

P.S.—The early embryological sexual attributes to which I have drawn attention most probably point to an hermaphroditic ancestry, but such a deduction may also be applied to the rest of the animal and plant world. The evidences of this in plant life are, of course, more apparent than they are in animal life.

THE BRITISH MEDICAL ASSOCIATION AND MEDICAL DEFENCE.

To the Editors of THE LANCET.

SIRS,—It was decided at the annual meeting of the British Medical Association last July that voting cards should be issued to the British and Colonial branches, asking for a simple answer whether we should undertake medical defence or not. In a few weeks these cards will be in our hands, and it is to be earnestly hoped that every member will vote. There is no excuse for anyone not having formed an opinion, or for being too careless to fill in a reply post-card.

It may be of value to recapitulate the argument in favour of the adoption of defence. The invasion of the functions and livelihood of general practitioners by illegal practice and drug-selling increases steadily, and there is no organised body to withstand it, except the present private defence unions. The chartered corporations, in defiance of their charters, refuse to attempt to protect their members, and have resolved themselves into purely examining bodies. Only the expenditure of large sums could force the Colleges to reassume their functions of protection; it would therefore be more practical for the members of the Association (which includes the bulk of the profession) to subscribe for this provision of protection to be administered by their own nominees. As to the necessity for or advisability of collective defence many members are doubtful, but none deny that without the safe-guard of some coöperative union for defence of individuals, practice is quite impossible. The only question is whether the Association or existing private unions can best administer this office. It is obvious that the larger and richer the administrative body is the better for its members. The existing societies need wider membership and larger reserve funds, both of which the existing organisation of the Association can supply. We already need a court of arbitration among our own colleagues to decide questions of libel and professional conduct. Such questions are often incapable of proper solution by ordinary courts of law; they are too frequent already and they will become more frequent as the present competition and pressure increase in the ranks

of a profession the members of which are becoming less and less regardful of the etiquette of professional life.

Such a board of arbitration will be afforded by the Association Defence Committee or committees, and it will be a great advantage to have for further reference (if necessary) of doubtful inter-professional cases, the Council of the Association appointed not for defence but for general purposes. We have ready made an organisation which has trained its committees in varied legal and Parliamentary work; we should have no difficulty in training another one, while we know that most of the skilled executives of the principal defence societies will be placed at our disposal if required. The scientific work of the Association will be no more injured by this departure than it has been by the other political work.

I am, Sirs, yours faithfully,

Westerham, Nov. 15th, 1897. A. MAUDE.

THE HOSPITAL REFORM ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—May I be allowed once more to appeal to the profession for financial help to enable the Hospital Reform Association to carry on its work? Men as a rule have short memories, and I may therefore be pardoned for reminding them that since our establishment in October of last year we have held meetings in London, Liverpool, Birmingham, Manchester, Brighton, and Bristol; that we have communicated with the authorities of every hospital in England and Wales; that we have petitioned the Royal College of Physicians of London; and that we have made an investigation into and published a report on the special hospitals of the metropolis. Whether we have succeeded in arousing public opinion I will leave others to judge. I may, however, be excused for mentioning one or two facts which may or may not have some connexion with the work of propagandism that we have undertaken. In the first place, the authorities of the general hospitals with medical schools have drawn up a series of recommendations for the better administration of the out-patient and casualty departments. In the second place, the Council of the Hospital Sunday Fund has recommended the London hospitals to appoint inquiry officers. And, in the third place, the Duke of Devonshire has spoken of the question of hospital abuse as one that deserves investigation. Considering our youth and the very small number (150) of members who have associated themselves with the work, we may be pardoned for saying that our record is not a bad one.

I am, Sirs, your obedient servant,

Cardiff, Nov. 15th, 1897. T. GARRETT HORDER.

ATHLETES AND LARGE-SIZED HEARTS.

To the Editors of THE LANCET.

SIRS,—I read in the *Sportsman* of to-day that F. E. Bacon in his three-quarters-of-a-mile race on Saturday at Catford Athletic Grounds with E. C. Bredin, "again proved what a remarkable athlete he is, for he finished almost as fresh as when he started." The three-quarters of a mile was raced in 3 min. 22½ sec. I cannot help thinking that it would be worth recording the result of an expert professional examination of F. E. Bacon's heart. I bear in mind that Eclipse, the racehorse, and Master McGrath, the champion greyhound, were found post mortem to have very large hearts, so carrying off the great pressure of the increased circulation during the times of racing. It has been said that neither of these animals required much training for their races. I do not know if this is equally the case with Mr. Bacon. I am, Sirs, yours faithfully,

Canterbury, Nov. 15th, 1897. PUGIN THORNTON.

THE LATE SIR W. MACKINNON, K.C.B.

To the Editors of THE LANCET.

SIRS,—Although extremely reluctant to appear in print where my own services are concerned I feel constrained to correct some singular inaccuracies in the latter portion of your obituary notice of my distinguished friend Sir William Mackinnon. For instance, at the Gate Pah you state: "The officers were one by one wounded or killed and none remained unhurt but Mackinnon. He took command of the men, rushed the Pah, captured it ....." This is so absurd and ridiculous an assertion that it scarcely needs contradiction; but as I was present on the occasion referred to, and Dr. Mackinnon was serving under my orders, I had better state what actually occurred. At the assault on the Gate Pah owing to the paucity of medical officers available for this duty Dr. Mackinnon and myself accompanied the troops into action, taking up a position in rear of the supports, attended by two orderlies to carry our "field companions." When the attacking party and the supports who rushed in with them were driven out of the Pah we found ourselves and a number of wounded men isolated and absolutely unprotected, a panic having seized the retreating troops. At that moment a body of natives emerged from the Pah and were making direct for us. We never for a moment thought of abandoning our helpless charge and I directed the two men who so manfully stood by us to fire. Dr. Makinnon, hastily snatching a rifle from one of the fugitives, also fired and wounded the leading chief in the heel. This and the fire of the two men caused them to hesitate and pause, evidently suspecting an ambuscade, for we were partially concealed by high ferns. Our perilous position having been perceived by the General a hundred men of the Naval Brigade were hastily dispatched to our assistance, the General himself and his staff speedily following. Sir Duncan Cameron, with the nobleness of character so characteristic of him, addressed some handsome remarks to us, describing our conduct as an example to the troops. The next morning he sent for me to elicit full particulars of the occurrence, and informed me of his intention of recommending us, as well as another medical officer (Dr. Manley) who accompanied the storming party into the Pah, for the Victoria Cross. I pointed out that I already possessed it, and did not feel justified in accepting further distinction merely for doing my duty in not deserting my post. He replied, "But what about Mackinnon—do you think he would be satisfied with the Order of the Bath?" When I mentioned this to Dr. Mackinnon he at once acquiesced. The General wished what took place to be considered confidential, but as he afterwards alluded to it in an official memorandum to the Military Secretary in the following terms I feel justified in quoting it. The incident is thus referred to:—

"Dr. Mouat invariably accompanied the force operating in the field under my command, and I wish to mention an act of conspicuous bravery performed by him at the assault on the Gate Pah, when Dr. Mackinnon and himself remained (after the retreat of the troops), attending the wounded men who had fallen near the entrenchments, exposed all the time to a close fire from the enemy's works, and in so dangerous a position that Dr. Mackinnon at one time was obliged to snatch a rifle and fire to keep back the enemy, mortally wounding a well-known leading chief. For his gallantry on this occasion Dr. Mackinnon was appointed a Companion of the Bath."

The statement regarding operations on the elbow-joint is not quite correct. It was not the elbow-joint, but excisions of the head of the humerus of which he was justly proud, as there were eight successful cases of this class, some of which were performed by him, but others by Sir A. Home and myself.

In conclusion, I wish to bear testimony as an old friend of thirty years' standing to his many excellent qualities both as a friend, a soldier, and a surgeon. With regard to his views on the question of military rank he held the same opinions as myself: that soldiers only understand one kind of rank—that is, military rank expressed by military titles; and if the medical department is in future to be anything more than a mere cypher and a sham in the military hierarchy it will have to come, and the sooner it comes the better. I am, Sirs, yours faithfully,

J. MOUAT,

Nov. 10th, 1897. Surgeon-General (Retired).

*** The passage in the obituary notice was written by a distinguished surgeon. We are glad to publish Sir James Mouat's interesting account of the stirring episode of the Gate Pah.—ED. L.

THE ATTENDANCE AT HOSPITALS OF THE HONORARY STAFF.

To the Editors of THE LANCET.

SIRS,—The question of an attendance-book to be signed by the honorary medical staff having been under consideration at this hospital I have ascertained the practice in this respect at other metropolitan hospitals and the results of my inquiry appear so interesting that they are submitted to you for publication.

Although but at few institutions the hour of departure is

noted, its adoption was recommended to our committee, since the record demonstrates the amount of time which is devoted to the patients by the honorary staff, a point hardly appreciated by the general public. The figures include twenty-one general and fifty-one special hospitals. At seventeen general and at thirty-nine special hospitals an attendance book is employed; at one it was employed but fell into disuse, while at two others the subject is now under discussion; at ten only is there no registration. Two institutions did not reply to my inquiry. At thirty-nine institutions the medical staff are required to register their names and the hour of arrival, at nine both the hour of arrival and departure, and at the remaining eight the registration is carried out by an attendant. All the hospitals for phthisis and diseases of the chest have an attendance-book, and at two of them the staff sign both the time of arrival and departure; at all the ophthalmic hospitals an attendance-book is in force, at one of them the staff signing both in and out. At nine out of the ten hospitals for women—including lying-in—the attendance-book is employed. At six of the nine children's hospitals it is in use, and at one of them the question of its introduction is now being discussed. In two of these hospitals the rules on the subject of signing are very stringent. Of the four hospitals for diseases of the throat and ear the staff sign their names, together with the hour of arrival and departure at three of them, and in one case the arrival only.

I am, Sirs, your obedient servant,

RICHARD KERSHAW,

Secretary, Central London Throat and Ear Hospital.

Gray's Inn-road, Nov. 16th, 1897.

"A TESTIMONIAL TO DR. JOHN T. ARLIDGE."

To the Editors of THE LANCET.

SIRS,—I will feel much obliged if you will insert in THE LANCET the following list of subscribers to the testimonial to Dr. J. T. Arlidge to present date.

I am, Sirs, yours faithfully,

CHAS. F. MOORE.

10, Upper Merrion-street, Dublin, Nov. 16th, 1897.

	£	s.	d.
Mr. J. W. Ogle, M.D. Oxon., F.R.C.P. Lond.	2	2	0
Sir Charles Gage-Brown, K.C.M.G., M.D. Edin.	2	2	0
Mr. M. Baines, V.D., M.D. Lond.	1	1	0
Mr. Charles F. Moore, M.D. Glasg.	2	2	0
Sir Peter Eade, M.D. Lond.	2	2	0
Mr. W. D. Stone, M.D. St. And., F.R.C.S. Eng. ...	1	1	0
Mrs. M. H. Ashwell ...	1	0	0
Mr. Henry S. Purdon, M.D. Glasg.	0	10	6

DR. R. R. RENTOUL'S RESIGNATION OF MEMBERSHIP OF THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—When I resigned my position of Direct Representative upon the Medical Council I promised privately and publicly to give my reasons for so doing. Before doing so let me try to correct a strange idea which seems to possess the minds of some practitioners to the effect that they conferred upon me some marked honour when they voted for my election to the Council. I have never and shall never consider any such election an honour. In 1891 I was asked to stand; my expenses guaranteed, but I refused. In 1896 I publicly stated I would withdraw my candidature if Mr. Wheelhouse and Sir W. Foster agreed to stand again, and in 1897 I resigned as I came to the finding that I could not accomplish any of my work as member of the Council constituted and worked as it now is. Every honest practitioner must recognise that a practitioner—and especially a practitioner in general practice—must do great injury to his practice if he not only leaves it three or four times each year, but what is more, if he gives a very great share of his time to preparing and working up business to bring before Sessions and Committees of the Council. To attend meetings of the Council simply for the "honour" of sitting at the Council's meetings is not to my liking.

My first reason for resigning is that the 6646 practitioners who voted for me practically deserted me immediately afterwards. I think most sane persons will agree that to put a man in a position to fight and carry out a forward policy he must be thoroughly supported morally and financially. As to the want of moral support, I may mention one case only. Early this year, after prolonged work, I drafted a Bill for the Registration of Midwifery and other Nurses. I sent a copy of this to about 129 Medical Societies in the United Kingdom and to about 46 Branches of the British Medical Association, with a request that each should refer this Draft Bill to a committee and ask their M.P.'s to support it and to let me know. Other than practitioners will have difficulty in believing me when I state that only three of these Societies and Branches had even the common courtesy to acknowledge the receipt of either the Draft Bill or letter. The same shabby and unbusinesslike treatment has practically been given to my efforts in favour of increased Direct Representation, the better management of Medical Charities, and my proposed Fund for the Widows and Orphans of Medical Practitioners. Such facts are truly heart-breaking and fearfully discouraging. But among practitioners competition is now so keen and degrading that there seems to be a secret feeling of satisfaction when another practitioner fails; while not a few place one man in an open position and leave him to fight *their* battles as well as he may. Such a "system" must always fail. However, so long as practitioners think it pays them better to be disorganised so long will they agree to accept failure and to appear ridiculous. Again I complain—and, I feel, with just cause—that practitioners have refused to back up my efforts on their behalf financially. No public question to-day can go ahead unless backed up financially. In May, 1896, I sent a circular letter to over 4000 practitioners stating that since 1890 I had advanced money out of my own pocket to the extent of £378 13*s.* 8*d.*, and asking that this money should be repaid. Since February, 1896, I have also expended £75 7*s.* 4*d.*; or a total of £449 1*s.* Of this total expenditure £81 15*s.* is still unpaid, most of it having been expended in defeating the many Midwives Bills which have since 1890 been introduced into Parliament. From the 4000 practitioners applied to only forty-five replied, these refunding £26 6*s.* 6*d.* Now I ask any practical man, Is it fair, is it businesslike, or is it even honest, to allow one practitioner to advance funds required to fight a public Medical question of great moment? I distinctly feel that it is neither fair, business-like, or honest. With other Public questions or in events affecting the interests of a class of persons, a fund for organising and working is always provided. All along I have worked willingly without reward of any kind. But I would urge that if practitioners wish to be considered really in earnest in their demands for improvements they must not be so markedly dilatory in supplying the funds. When it falls upon one to do, not only most of the uphill fighting, but to beg for money to carry out work, the position is little short of personally humiliating while it degrades the cause.

My second reason for resigning is—that so long as there are only 5 Direct Representatives in a Medical Council of 30 Members we shall fail to obtain our just requests. I recognised this as far back as 1890, when I brought this proposed increase up before the annual meeting of the British Medical Association, and when Sir W. Foster and Mr. Wheelhouse took the question before the Medical Council. Five votes against 25 must for ever fail to carry the question of increased Direct Representation. Every person will recognise this except Medical Practitioners. My only regret now is, that Mr. Wheelhouse and Sir W. Foster, and the three other Direct Representatives did not then resign and go to the Profession again and again for re-election, thus putting the Medical Council to the cost and trouble of repeated half-yearly elections, and until the other 25 Representatives recognised the just nature of our request.

My third reason for resigning is that the funds of the Medical Council are much too small to allow the Council to administer the Medical Acts, the Dental Act, and the other Acts relating to Medicine. The average annual income of the Medical Council is about £8000, while the income of the Branch Councils of Scotland and Ireland are so small that these Branch Councils are debarred from doing any practical work. The income of the Medical Council in 1896 was £8746 and its expenditure £10,273. Now what does this mean? It means that practitioners must lay aside their traditional policy of meanness in refusing financial help. My proposal has been, and is, that the Medical Registration fee be made an *annual* one and that each practitioner must pay an annual fee of £1. In 1896 there were 34,478 practitioners' names upon the British Medical Register. Here is a wise and just method of raising over £34,000 per annum—a by no means too small a sum when we consider the vast amount of

work which the Medical Council, and more especially its 3 Branch Councils, may and could perform. Even the one item of Inspecting and visiting all of the Examinations held by the 18 Medical Examining Bodies could not be efficiently carried out at a less cost of about £8000 per annum. At present about £500 per annum is expended, and up to now some of these examinations have never been inspected at all! Yet practitioners growl at a policy which is directly due to them. I do not exaggerate when I say that if the Council met 4 times yearly it would on, its present income, be bankrupt in a few years. Will practitioners work out this proposal? It is for them to decide. Finally, I deeply regret the above conditions, which have driven me to resign my position upon the Medical Council. But if my resignation does some little good by calling practitioners to the reasons why, to my mind, efficient work can not now be carried out, then this resignation will not have been thrown away. Many years of close work have given me a fair grasp of the chief Medico-Political and Medico-Ethical questions which now stand in our way. It was my intention from time to time to publish pamphlets upon these questions—but practitioners by their stingy support have ruled it otherwise.

Since 1884 I have carefully prepared pamphlets in manuscript upon following leading questions:—

Name of Subject.	No. of Foolscap Paper.
(*a*) The better management of our Voluntary Medical Charities ...	94
(*b*) Proposed Public Medical Services of England	28
(*c*) Home Hospitals	6
(*d*) Hospital Management in New Zealand, France, &c.	22
(*e*) Should workhouse infirmaries be open for Clinical Instruction of Students?	10
(*f*) Resident Halls for Medical Students	8
(*g*) Proposed increase in the number of Direct Representatives ...	45
(*h*) Reforms in the British Medical Association	50
(*i*) Registration of Stillborn Infants in Denmark, Holland, Switzerland, Sweden, Norway, Russia, Greece, Italy, Spain, France, Belgium, Germany, Austria, America, and Canada	16
(*j*) Proposed registration of Still-born infants in the United Kingdom	28
(*k*) Some of the Systems in Force in Foreign Countries relating to the Certification of the Fact and Cause of Death and of the Identity of the Dead	23
(*l*) Proposed amendment of the Births' and Deaths' Acts in the United Kingdom	56
(*m*) Proposed amendment of the Births' Acts	9
(*n*) Proposed Fund for the Widows and Orphans of Medical Practitioners	97
(*o*) Rules relating to Public Meetings, Parliamentary Debate, and Procedure at Meetings	53
(*p*) The unrestricted sale of Poisons and dangerous drugs by Chemists	28
(*q*) Continental laws against prescribing Chemists and dispensing Medical Practitioners	20
(*r*) Proposed amendment of the Medicine Stamp Acts	23
(*s*) Penal Powers possessed by Medical Authorities in the United Kingdom against those who practise medicine without being lawfully qualified	95
(*t*) Similar Penal Powers possessed by Foreign Countries	31
(*u*) Penalties against those who illegally act as Clergy, Barristers, Solicitors, Chemists, Veterinary Surgeons, Pilots, Mercantile Marine Masters, Engineers, &c.	22
(*v*) Translation and Collection of the Medical Acts of Italy, Ontario, Manitoba, Nova Scotia, France, Switzerland, and of the United States, Cape of Good Hope	90
(*w*) The last important work which I have just had translated for me is "The Prussian Tariff of Fees for Physicians, Surgeons, and Dentists established by the German Law of May 15th, 1896," by Dr. A. Forster, Privy Councillor of the Prussian Minister of Medical Affairs	70
(*x*) Proposed Amendments to the British Medical Acts ...	(Unfinished)

I would here state that I shall be glad if practitioners will refund me the above £81 15*s*. (I was advised to remain upon the Council until the fees repaid this sum. As this would have taken about two years useless time I refused.) Further, I am willing to have any of the above manuscripts published if practitioners will agree to pay further publication. I often regret we have not a society similar to the Sydenham Society and which would publish from time to time original works and transactions bearing upon Medico-Political and Medico-Ethical Subjects. The two I should like published just now are (*a*) Proposed increase in the number of Direct Representatives, with the provision for an annual Registration fee of £1; and (*b*) my proposed Widows and Orphans Fund.

Liverpool, Nov. 14th, 1897. ROBERT R. RENTOUL.

"A NOTE ON CYCLING."

To the Editors of THE LANCET.

SIRS,—The able letter of Mr. Harry Campbell, M.D. Lond., in reference to the proper position to be assumed by riders when cycling raises a question of considerable importance. It is directly opposed to the statements in your columns on March 2nd, 1895, of Dr. Herschell, who said: "The stooping posture so habitual to the modern cyclist by contracting the chest prevents the proper expansion of the lungs, and by interfering with the proper aeration of the blood causes the condition of breathlessness to come on quicker." My object in writing to you is to say that my opinion, after considerable experience with riders of both sexes, is that what is needed upon a cycle is a rest for the back attached to the rear of the saddle, which would enable riders who agree with Dr. Herschell, or who find for other reasons, or medical advice, that a stooping posture is injurious to them, to ride perfectly upright, because of the support to the back, and yet avoid some of the objections suggested by Dr. Campbell; also it would make it possible for any rider to adopt the upright position at intervals without injury, which plan, to my mind, presents the true solution of the problem. A rest of this description has been designed and applied and was recently exhibited to the military cyclists at Woolwich. It is called the "Paraclete Back-rest," and when not used as a support to the body can be turned down to form a mud-guard. On the Continent almost all cyclists, male and female, adopt the stooping posture, but whether this is with the consent of their medical advisers I cannot say. I am, Sirs, yours faithfully,

JOSEPH OFFORD.

Gloucester-road, South Kensington, Nov. 15th, 1897.

"MEDICAL EVIDENCE AT CORONERS' INQUESTS."

To the Editors of THE LANCET.

SIRS,—In the leading article in THE LANCET of Nov. 13th and in the previous references to the recent inquest at Twerton, Bath, one point, I think, has not been touched upon—namely, the desirability or not of resident officers of hospitals being allowed to give private advice and evidence in cases that have no connexion with their hospitals. In the present instance it does not appear that the deceased had anything to do with the hospital either as an in- or out-patient. There is, I believe, a rule in most hospitals to the effect that resident officers must not engage in private practice but devote their whole time to the interests of the hospital. If such were not the case what is to prevent them from practically competing with their own staff if asked by some outsider to give expert evidence which certainly seems to be reversing the order of things and, I should think, is a very exceptional occurrence. I am, Sirs, yours faithfully,

Nov. 16th, 1897. G. P.

"THE ARMY MEDICAL STAFF."

To the Editors of THE LANCET.

SIRS,—Your admirable article on the Army Medical Staff should earn the thanks of everyone. There is, however, one statement quoted therein which is so often put forward by the opponents of reform that I should like to emphasise its fallacy. It is this: "The whole *raison d'être* of the combatant officer is to command, fight, and kill in order to defeat the enemy, whereas the *rôle* of the medical officer is to save life and to succour the sick and wounded. Consequently simple military titles for medical officers would be false and misleading and somewhat inconsistent with the dignity of the medical profession." This statement is as much out of date as bows and arrows. In the first place, Army Service Corps officers, whose functions are those of commissariat and transport, are now "combatant officers," and Army paymasters, who remain at home and keep the accounts, have military titles and fighting and killing have no part whatever in their *raison d'être*. Secondly, the medical officer's *rôle* is by no means so purely humanitarian as is here represented. One of his chief functions is to remove sick, wounded, and non-effectives from the front in order that fighting and killing may be more expeditiously proceeded with; and the succouring of sick and wounded is largely for the purpose of restoring them as soon as possible to their places in the fighting line. There is nothing more false or misleading about Captain A, Army Medical Corps, than there is about Captain B, Royal Engineers; Captain C, Army Service Corps; Captain D, Army Pay Corps; Captain E, Army Schoolmaster; Captain F, Army Riding-master; or

Captain G, Quartermaster, Army Medical Staff; the latter by the way, actually commanded by the medical officer.

With regard to the dignity of the medical profession it is amusing to observe the solicitude manifested by certain military writers on that score. Although we can assure our friends that they need not be the least concerned about the dignity of our profession we may point out that that dignity is scarcely likely to suffer in asking for reforms which are necessary for the well-being of the army, and that there is no other way than that which we propose of giving the medical officer "the rank and power" which his grave responsibilities necessitate. It cannot be too strongly emphasised that the army medical officer is a soldier as well as a doctor, and in order to carry out his medical duties properly he must have his military position fixed and defined. Combatant officers are fast coming to see the fairness of the claims put forward. The real opponents to reform are the "military advisers" of the War Office.

I am, Sirs, yours faithfully,

Nov. 16th, 1897. M.D.

THE EPIDEMIC OF TYPHOID FEVER AT LYNN.

(FROM OUR SPECIAL COMMISSIONER.)

(Concluded from p. 1282.)

THE drainage of Lynn has from time immemorial been the fundamental problem on which the very existence of the town depended. According to ancient records there is reason to believe that Lynn was founded by the Romans in the reign of Nero. They brought over a number of Belgic or Batavian colonists and set them to work to drain the land on the banks of the Ouse. The spot where the majority of these colonists established a settlement was called Len or Lyn, which is the Celtic word for fen or marsh. From the time of Edward the Confessor to the reign of Henry VIII. the town was dominated and exploited by ecclesiastical authorities, but with the advent of the Reformation the commercial element became predominant and Bishop's Lynn was converted into King's Lynn. This change was favourable to the material interests of the town. For instance, it was paved all over in 1546. In spite, however, of various improvements Lynn suffered severely from plague in 1574 and 1584. There was another terrible epidemic in 1598, when 320 persons were buried in St. James's Churchyard. In 1636 there was again a great plague and no market could be held. So it seems that in the past, as in the present, the inhabitants of Lynn had their full share of sickness. The town became renowned for the manufacture of agricultural implements and of oil-cake, but the want of drinking water caused great distress till the year 1423. Henry VI. then gave powers to cut a canal to the Gaywood River at "Kettle Mills." In the fifteenth century the water of this river was considered to be very pure, and doubtless with the sparse population of those days there was no great risk of pollution. Under Cromwell the water canal was carefully cleaned out and a larger supply provided. Strange to say, the keepers of alehouses alone were made to pay the cost of this improved water-supply; thus it was the consumption of alcohol that helped to promote the cause of temperance. But the water came in an open ditch, which was very objectionable, and a great progress was achieved in 1699 when wooden pipes were introduced. Subsequently a water-wheel was constructed as were three pumps to raise the water to a reservoir, so that it might be delivered by gravitation. Horse-power was also utilised, and this continued till 1829, when a water-tower and tank were erected, and a steam-engine (instead of water and horse-power) was employed. At the same time iron pipes were substituted for the wooden pipes. The water, however, was only delivered in cisterns at the basement of the houses and had to be raised by hand-power to the upper floors. There were also many persons who still took their water from wells or from open ditches.

Though there have been constant difficulties with regard to the supply of water fit for drinking, this was not due to a mere want of water. On the contrary, up to the year 1821 Lynn had constantly suffered from disastrous floods. At that date, fortunately, the channel of the river was deepened for a distance of several miles. These excavations were called the "Eau Brink," and when they were terminated it was possible to lower such sewers as existed, and the basements of many houses thus became somewhat dryer. Some thirty years later a vast surrounding tract of land was redeemed from the sea. As these general drainage works progressed ague or malaria which was endemic in the town and surrounding country gradually disappeared, though it generally showed a marked increase just at the moment when the soil was disturbed by the digging of fresh trenches or drains. Apart from the general drainage of the soil, which is a problem affecting the entire fen district, there is the question of dealing with the Lynn sewage. A scheme for this purpose was prepared in 1887 by the former borough surveyor (Mr. E. G. Mawbey, Assoc. Inst., C.E.), which, by proposing one single outfall, made it very difficult to obtain sufficient gradients in so flat a town as Lynn. At present there are short sections of brick sewers discharging at the nearest point in the River Ouse or in its four "fleets," the little tributaries that pass through the town. For the northern and eastern part of the town a large egg-shaped brick sewer was built which, having its outfall near the old dock, is known as the "dock culvert." It is ventilated by openings on the street level and by a few shafts carried up to the roofs of houses. Though there are several automatic flushing tanks at the heads of branch sewers it cannot be said that these sewers are self-cleansing. Then when the tide comes up, there is no out-flow, and the sewage remaining stationary for several hours must make deposits. It is noticed also that when the wind is from the west, and therefore blows into the mouth of the dock culvert, very unpleasant odours escape from the ventilators. Fortunately, many of the sinks and the closets are not inside the houses, but in outer buildings, and there has been much improvement of late in respect to the ventilation of private drains. It is quite a common sight at Lynn to see the soil-pipes continued above the roofs of the houses. This is a most necessary precaution, for the sewers certainly constitute a grave danger to the health of the inhabitants. The worst sewer is the dock culvert. It is a large and dirty sewer, and it receives half the drainage of the town. Dr. Bruce Low, in his report to the Local Government Board on the typhoid fever epidemic of 1892, relates that out of forty-one of the earliest houses invaded twenty-seven were in the area served by the dock culvert. This area had a population of 10,300 inhabitants, but only twelve of the houses where there were cases of typhoid fever drained direct into the culvert, the remaining fifteen houses had privies. In the area not drained by the dock culvert there were seven houses with water-closets and eight houses with privies where typhoid fever occurred. As the population of the latter area was 8800 this makes a proportion of 1·7 per 1000 houses in which cases of typhoid fever were notified. This calculation of course deals only with the forty-one first houses that suffered. On the other hand, the proportion of houses per 1000 in the dock culvert district was equal to 2·6 per 1000. It is true the houses with privies supplied the greatest number of cases. But whether a house has a privy or not it still feels the effects of the sewer that passes close by. There are the street ventilators and also the drainage of the yard, the rain from the roof and the sinks, which does not go into the privy but into the sewer. The houses with privies do not escape sewer contamination; they only add to it by a little private contamination of their own which arises from their privy and which helps to accentuate the evils due to the sewer.

After the epidemic of 1892 the borough engineer, Mr. E. J. Silcock, C.E., was instructed to examine all the sewers of the borough; and out of 140 streets he found that the sewers were defective in no less than 72 streets. These sewers possessed one or several of the following defects: they were either insufficiently large in sectional area or not sufficiently deep to drain properly the surrounding property, or they were not laid to proper lines and gradients, or they were brick sewers in bad condition and did not possess suitable manholes for inspection, or they were deficient in ventilation and in flushing arrangements. Finally, there were so many outfalls that it was impossible to describe the arrangement as a "system." Mr. Silcock was then invited to prepare a scheme, and this he has done on the principle that the first object is to drain the town properly and that the outfall is a matter of secondary importance. When a town is flat and not prepared to incur the expense of raising the sewage by artificial means there

is but one method of obtaining sufficient gradients in the sewers, and that is to have, not one system, but several systems; not one outfall, but several outfalls. This is, indeed, what nature itself has done in Lynn. The town is divided by four little rivulets, or "fleets" as they are called by the inhabitants, and the natural drainage is towards these streams. Mr. Silcock proposes to convert the four streams into four main collectors. The four districts thus drained being small the sewers would be short, and therefore it would be possible to dig deep enough to give them the required gradient. The only objection is that there would be four outfalls discharging the sewage into the river abreast of the town. As the river is a tidal river, does not pass before another town, but at a short distance from Lynn falls into a broad arm of the sea—namely, the Wash—it is thought that there is no need to purify the sewage. In any case, if such a necessity should ultimately arise a deep intercepting sewer could be constructed parallel with the river, which would receive the sewage from the four outfalls and convey it to a sewage farm or to purification works.

The necessity of dividing the town into four drainage areas is due, not merely to the flatness, but also to the nature of the soil. The soil is so unstable that it would be difficult to build large and deep-laid sewers. Near the gasworks to find a solid foundation for a chimney four borings were made twenty feet from each other and thirty-six feet deep. The result was different for each boring, though they were so near one to the other. Sometimes it is necessary to go down as far as forty feet to reach a really stiff clay. The clay that is near the surface is a silting or greasy clay and it is constantly varying in thickness. Most of the buildings in Lynn have settled through a partial subsidence of the foundations. Then there is the great difficulty of dealing with the rain-water, for the sewers must not only drain the water away but provide a sufficient storage capacity when the outfalls are blocked by the rising tide. In deciding what should be the size of the sewers it does not suffice to know the maximum rainfall noted in twenty-four hours, but rather the maximum noted in less than an hour. Thus it has rarely happened that more than two inches have fallen in a day, and this, if evenly divided, would only mean one-twelfth of an inch in an hour, a quantity that could be easily disposed of by small sewers. But it often happens that during a storm an inch of rain falls in less than an hour, and even that has at times been largely exceeded. Thus on Sept. 27th, 1893, no less than 1·45 in. of rain fell at Lynn in twenty-five minutes, which is equal to a rate of 3·5 in. per hour. Nevertheless, a consultation of the existing records indicate that it is very rare indeed that more than one and a half inches fall in an hour. The present scheme of drainage is based on this supposition. Further, observations made in numerous towns show that on closely built and paved areas only 50 per cent. of the rain which falls finds its way into the sewers while the rain is falling. Therefore the sewers will be planned to take three-quarters of an inch of rain per hour, and this will be equal to an actual rainfall of one and a half inches in the hour.

Storm overflows, which, according to the above calculation, would rarely come into use, will be constructed so as to communicate with agricultural drains that are outside Lynn and under the control of the Norfolk Court of Sewers Some difficulty has been experienced in prevailing upon this latter authority to assent to this scheme. Their purpose is to prevent floods, and now it was proposed to flood them with the overflow from the Lynn sewers. In answer to these objections it was pointed out that by the time the storm overflows began to act the sewage would be so diluted as to be fit to be thrown even into a stream containing fish. Secondly, that the Lynn overflow would occur immediately and while the storm was at its height. Agricultural and marshland drains which are connected with a very extensive rural district do not feel the effect of a storm at their outlet till many hours after the storm is over. Consequently, even if the tide was rising when the storm occurred there would be time for the overflow from the Lynn sewers to escape before the water from the agricultural districts came down. Nevertheless, before the Norfolk Court of Sewers would consent to the proposal the Lynn Town Council had to promise to pay damages if a flood was occasioned by their storm overflows, but the onus of proof would lay with the Norfolk Court of Sewers. The only chance of an accident of this sort would be if two very violent storms occurred in succession. In that case the water from the first storm might have reached the outfall of the drains under the Court of Sewers at the moment when the overflows from the Lynn sewers were bringing the waters of the second storm. If, also, just at this moment the tide was rising and the outfalls were consequently blocked, then the Norfolk Court of Sewers might have cause to regret that they had allowed the Lynn sewers to overflow into their system.

The scheme for the drainage of Lynn involves the construction of a number of new sewers, but some of the old ones could be used. The flow, it is calculated, will be equal to 3 ft. per second, and at that velocity the sewers should be self-cleansing. Such a result will be very good, especially in a town like Lynn, where all the sewers must of necessity be below the high-water level. Unfortunately this principle cannot be applied in every instance, but it will be the general rule, and where it is not applied there will be special means of flushing provided. It is also promised that an effort will be made to compel property owners to relay and ventilate their private drains wherever these are defective. Such, in its broad lines, is the scheme for the redrainage of Lynn. It was first submitted to the sub-committee of the Town Council Sanitary Committee. When it had been approved by the sub-committee they converted the Sanitary Committee, and the latter in turn appealed to the whole council, which ultimately and unanimously endorsed the scheme. At the same time it was decided to apply for a paving as well as a sewage loan. In response to this demand the Local Government Board opened an inquiry on both proposals at Lynn on Dec. 19th, 1894. It was soon evident that there was strong opposition on the part of the ratepayers and that they could not all be heard on the same day. The curious point was that several of the ratepayers who had fought against the new water-supply scheme and argued that the old water-supply was good but that the sewers were bad, now came forward to protest against the new drainage scheme. The Local Government Board, on its side, insisted that every detail should be settled before sanctioning the scheme, and there was the difficulty with the Norfolk Court of Sewers described above. Their land is below high-water mark; they are also tide-locked and subject to floods; and now it seemed as if the town of Lynn, by its proposed storm overflows, wanted to increase their floods. In exchange for this threatening prospect the town of Lynn had nothing to offer. Such an unequal bargain could not be negotiated in a day, and that the matter has been satisfactorily settled according to the terms already mentioned is in itself a good enough result, and it is hardly fair under such difficult circumstances to complain of the time it took to bring it about. It must be borne in mind that in these rural districts there is a tendency on the part of country people to look upon a town as an infringement upon their rights. In fact, to judge from the attitude of some rural magnates, it would seem as if they thought that a town ought not to exist at all, and if it does exist it should keep itself very quiet. In this instance not only did the town of Lynn fail to keep quiet, but it persisted in having unwelcome epidemics, and now actually wanted to pour out its foul and contaminated sewage upon the sacred precincts of a purely rural district. Then, to further embarrass the rapid progress of negotiations, which, under the above conditions, gave so little promise of success, the Norfolk Court of Sewers only meet twice a year. Fortunately they appointed a sub-committee with which it was possible to negotiate, but the committee had no authority to act.

In view of these obstacles the Local Government Board inquiry was adjourned. The Local Government Board at first raised some objections to the many outfalls, and finally contented itself by insisting on the prolongation of one of these outfalls, though this will involve an extra expenditure of £5000. The Lynn Town Council made fresh applications for a sewage loan in May, 1895; but this could not be granted because the drainage scheme involved the covering over of one of the fleets, which cannot be done without an Act of Parliament; and it also required the consent of the Norfolk Court of Sewers for the storm overflows which were to communicate with their system of drains. It took two years to secure these objects. The Bill in Parliament was carried in 1896 and received the Royal consent in the middle of that same year. The negotiations with the Norfolk Court of Sewers were not terminated till May, 1897. The Local Government Board was now able to sanction the loan, and this was done in the following July. The estimated cost of the drainage scheme, which is now at last sanctioned, is £27,500. The repaving

FIG. 1.

Entrance to Desolation-court.

of the town will cost £17,690, and the new water-supply, which should be ready for distribution in six months, is estimated at £30,000. The town has thus to incur an outlay of £75,190.

It is a great pity that no effort is made to profit by the stress of the present epidemic to raise the loans for sanitary improvements from the £75,190 now sanctioned to a round sum of £100,000. Something might then be done to deal with the slums of Lynn and a public abattoir could be constructed. Here, as in so many other towns, the private slaughter houses are a danger and a nuisance. Then there are some very melancholy courts and alleys in Lynn. A scheme for dealing with two such areas has been prepared, but nothing came of it. One of the areas has been nicknamed Desolation-court. It is bounded by Bridge-street, All Saints-street, Union-street, and Crooked-lane. The houses are so old as to be very dilapidated, but not old enough to be picturesque. There are in Lynn many mediæval houses, which, though in a sorry condition, it would be an act of vandalism to destroy. No amount of money could rebuild these interesting and picturesque mementoes of a past era; therefore no pains or expense should be spared to clean, repair, and fortify them so that they may long continue to render the town interesting, to attract visitors, and to bear witness to the sound work of our forefathers who lived in the days when jerry-building was unknown. But in Desolation-court the cottages are not picturesque—they are simply extremely unhealthy. Many of them have no back windows at all. If the owners were to pull some of these cottages down the courts are so crowded and cramped for room that they could not, in rebuilding the cottages, comply with the by-laws fixing the minimum amount of space that must be given both in the front and at the back of all newly constructed dwellings. On the other hand, some of the cottages are so dilapidated that it has been impossible to patch them up. Therefore there are houses in this area that cannot be inhabited such is their ruinous condition. In some instances the cottages have completely collapsed and a mound of bricks alone indicates the spot where they formerly stood. In other instances the outer walls are still standing, but the roofs and floors have gone. It is these melancholy ruins and the rickety appearance of such houses as still remain standing which gives to the area the appropriate appellation of Desolation-court.

One of the accompanying illustrations from photographs (Fig. 1) shows an entrance to this area. On the right side it will be seen how the wall of a cottage bulges out in the lower portion, while the cottage facing it has completely collapsed. In the other illustration (Fig. 2) there are more ruins in the foreground, and we see a front view of two cottages. It will be observed that the roofs are not straight, but are beginning to curve inwards, and that one window especially is totally out of line. It will also be seen how the staircase abuts right on to the street or alley. There is neither landing stage nor entrance passage. The steps have given way and are not straight or level. These illustrations, though reproduced from photographs taken under the adverse influence of November fogs, may help to illustrate the dilapidated and worthless condition of this property. After visiting such localities is it difficult to avoid

Fig. 2.

View in Desolation-court.

smiling sadly at the posters issued by the town council earnestly inviting all the inhabitants to boil their water. The dwellers in these slums are too often without the means of making a fire to cook their dinners, let alone the boiling of their milk and their water. Anything like effective precautions seems impossible in the midst of such misery, and these courts and alleys have paid their full tribute of victims to the epidemic. Fortunately, the collapse of some of the houses has given more air-space, and this improves the condition of the dwellers in those houses that are still standing. The second area of the town which it was proposed to condemn is at the opposite extremity—namely, the north end. Here the houses are not so dilapidated. Probably they are not so old, but they are small, overcrowded, and cramped together. In the absence of ruins there is less breathing space, and their general appearance conveys an impression of wretchedness and squalor. Such spots may well become hotbeds of disease.

In conclusion, it is necessary to insist that the work of sanitation is complex and that the causes of typhoid fever are numerous. The securing of a pure water-supply is the first and the most necessary of all sanitary measures, but it is not the only indispensable reform urgently needed at Lynn. Seeing that the water-supply of Lynn is exceptionally foul and liable to contamination the water question should come first; but it would be a fatal error to suppose that the town will be safe when once a pure water-supply has been provided. The drainage of the town is at least second in importance, and this question of drainage should comprise not only the removal of sewage, but the purification of the subsoil on which the town stands. The courts and alleys must be so repaved as to prevent any foulness reaching the subsoil. Then some of the worst slums have to be demolished, and energetic measures taken to secure the wholesome rehousing of the poor. Nor is this all; the health of Lynn will depend in a measure on the health of the surrounding agricultural districts. Already there have been within the last few weeks three cases of typhoid fever in neighbouring farms which supply milk and butter to the town. Measures were taken to prevent mischief arising from this source of contamination; but the danger may arise before proper precautions can be enforced. In the larger farms and dairies that send milk to London the organisation is more perfect, the sense of responsibility greater, and a strict surveillance is more easy to establish. It is in small, petty farms that the principal risk arises. In many of these rural districts the water-supply is most defective, but there is no money to procure a better supply. Yet something should be done, and the question arises whether the distant consumers of the produce of these poor rural localities might not contribute something towards the expense of measures which will protect them from the danger of infection. It is a very difficult but also a very urgent question. If as a result of the present epidemic these matters are taken earnestly in hand the victims will not have suffered in vain.

THE RINDERPEST IN SOUTH AFRICA.

(FROM A CORRESPONDENT.)

(*Concluded from p. 1285.*)

Professor Koch's Researches.

WE now come to the consideration of Professor Koch's work on rinderpest. An experimental station was established about two miles out of Kimberley, the floors and buildings of the old Victoria Diamond Mining Company having been placed at the disposal of the Government by the De Beers Company. Here Professor Koch commenced his valuable investigations on the disease on Dec. 5th, 1896. The results of his labours may be conveniently divided into two heads: (1) those referring to the etiology or causes and general characteristics of the poison; and (2) the methods of rendering cattle proof against its effects.

We will consider first that portion of his work which comes under the first heading. (*a*) The most careful and advanced microscopic and bacteriological methods of examining the blood and tissues failed entirely to detect any specific organism as the cause of the disease such as is present in the blood and tissues of animals suffering, for instance, from anthrax. (*b*) Other experiments were instituted to endeavour to discover how long the blood and tissues retained their infective properties. From these it appeared that any form of infected material taken from an ox which had died from rinderpest lost its power of communicating the disease to healthy animals if kept in a dry atmosphere at the ordinary temperature for about fourteen days. Putrefaction was also proved to destroy the poison. The conditions that obtain in the veld are not exactly similar to those under which these results were obtained. Experience, however, in affected areas shows that the poison is very soon destroyed, especially in dry weather. In damp weather or in places where the infected material is protected from being thoroughly dried it retains its poisonous properties for a longer period. Cattle kraals retain the poison longer than the open veld, and on this account when it is desired to destroy all infection rapidly it has been found wisest to burn the kraals down. We still need further evidence before being able to state definitely when an area which has once become infected will be again safe for ordinary healthy cattle. A few months at the outside is, however, the probable limit. (*c*) As to the distance through which the poison can be carried in the atmosphere the experiments of both Professor Koch and Dr. Edington, with those of other investigators, conclusively prove that the poison is carried but a very limited distance, if at all, in the atmosphere. Professor Koch had his experimental animals standing about twenty feet apart, separated merely by two sheets of galvanised iron, and in no instance did he find that the infection was communicated from affected to healthy animals provided that the attendants and utensils were kept entirely separate. Mr. Hutcheon's own experience on the Molopo River indicated strongly that the disease was not conveyed very far in running water. (*d*) Another important point in regard to the poison was the extreme virulence of rinderpest blood in conveying the disease. Professor Koch found that the hypodermic injection of $\frac{1}{3000}$th cubic centimetre of rinderpest blood, roughly about $\frac{1}{30}$th of a drop, was sufficient to produce the disease in a healthy ox, and Dr. Kohlstock, by later experiments, proved that half this quantity—i.e., about $\frac{1}{60}$th part of a drop—of rinderpest blood when injected into a healthy ox produced a violent attack of the disease. (*e*) As to the effect of the poison on sheep and goats, by passing the poison through successive series of sheep it was found that the poison became more powerful, although these animals did not appear themselves to suffer from marked symptoms of the disease with the exception of a rise of temperature. Blood, however, taken (after the virus had been passed through five series of sheep) from them and injected into healthy oxen produced a very violent and fatal form of rinderpest, leading to the conclusion that the poison by passing through these animals becomes more powerful. This fact possibly helps to explain why on some farms in close proximity to one another the percentage of recoveries varies so greatly. It would also account for the fact that in some few cases the sheep and goats have died from the effects of the disease. In the case of goats the virus appeared to become weakened. (*f*) The mixture of glycerine or phenol with rinderpest blood destroyed its infective properties. To recapitulate, the results of Professor Koch's experiments may be thus summarised: (*a*) That no specific organism has been proved to be present in rinderpest; (*b*) that this poison is rapidly destroyed when exposed to a dry atmosphere at a moderate temperature; (*c*) that it is only conveyed a very short distance, if at all, by the atmosphere; (*d*) that $\frac{1}{1000}$th cubic centimetre, or about $\frac{1}{60}$th of a drop of rinderpest blood, is sufficient to communicate the disease when injected in a normal saline solution (6 per cent.) into a healthy ox; (*e*) that the virus appears to be rendered more powerful by passing through successive sheep, but weakened when passed through successive generations of goats; and (*f*) that phenol (carbolic acid) in weak dilution destroys the poison and glycerine has the same effect.

We now come to a second division of Professor Koch's work—viz., the methods which he discovered for rendering cattle proof against the poison. Two methods for rendering cattle immune against the disease were discovered by Professor Koch, and it is as well to point out that the whole of the subsequent work which has been reported by various observers is little more than either a repetition of his original experiments or consists in improvements which experience and further experiments have added to the methods of preparing the materials or in applying them. The two methods of rendering cattle immune discovered by Professor Koch are known as (1) the serum treatment and

(2) the bile treatment. First, as regards the serum treatment. Professor Koch proved that the serum of cattle which had recovered from an attack of the disease (salted cattle) when injected under the skin of healthy cattle protected them from the poison of rinderpest for a short time, the immunity probably not lasting more than twelve, or at the most twenty, days. He then mixed ninety-nine parts of serum from salted cattle with one part of blood taken from rinderpest cattle and kept this mixture in an ice-closet for one night, and then injected 20 c.c. into healthy cattle, with the result that in a fortnight he immunised several cattle to such an extent that they were able to withstand an injection of 20 c.c. of rinderpest blood, and $\frac{1}{10000}$th part of this is a fatal dose to ordinary healthy cattle. The immunity thus produced is probably equal to that of an animal which had contracted, and recovered from, the disease. With regard to the serum treatment, it appears that other observers in Russia had stated that serum from salted animals was protective, but Professor Koch was the first to put it to any practical use and to publish the methods. Secondly, the bile treatment. This was an entirely original discovery by Professor Koch, and promises to be an incalculable boon to the cattle-owners of the colony and other parts if only properly carried out. He injected 10 c.c. of bile (taken from cattle which had just died from rinderpest, or which had been killed about six days after they had been purposely given the disease) into healthy cattle, and discovered that after fourteen days a quantity of rinderpest blood (sufficient to have given the disease to any number of healthy cattle) could be injected into them without any injurious result. Subsequent experiments proved that this immunity, or power of resisting the poison, was established at latest on the sixth day after the injection of the bile. Animals which became infected with the disease four days after the injection of bile, although contracting the disease, recovered from it after a mild attack, thus showing that the immunity commenced about the fourth day after the bile injection. Cattle which had been infected with rinderpest before the injection of bile, or at any period before the fourth day after the injection, died from the disease, thus proving that, in order to obtain good results, it is necessary that cattle should receive the bile treatment before the disease has broken out amongst them. This fact cannot too strongly be insisted upon, and has been amply proved by subsequent experience. The local result of an injection of bile from a rinderpest ox into a healthy ox is a hard, somewhat painful swelling of the size of a man's fist, which gradually disappears in the course of a few weeks. The development of this swelling is a fairly certain sign that the inoculation has been successful provided it does not suppurate, in which latter case the result is uncertain, the process of suppuration being liable to destroy the immunising properties of the bile. Subsequent experiments by Professor Koch, and also by Dr. Kohlstock, proved that the bile used by them was absolutely incapable of giving the disease. The experience, however, of Mr. Hutcheon and his staff appears to prove that some biles are actually capable of communicating the disease. As to the duration of the immunity thus produced no definite time can be at present stated. Dr. Kohlstock proved that it is as powerful at the end of three months as it is a fortnight after the injection, and it appears that the immunity lasts for a period long enough for all practical purposes.

Dr. Edington's Glycerinated Bile.

Next may be discussed the improvements which subsequent observers have added to Professor Koch's original methods. One of the chief obstacles in the application of Koch's bile treatment is the difficulty experienced in preserving the immunising properties of the bile when once it had been removed from the bodies of the rinderpest oxen. Dr. Edington has now proved that by mixing one part of glycerine with two parts of rinderpest bile its immunising properties are preserved for some time under ordinary conditions, so that it can now be sent any distance that is required in properly sealed vessels. The addition of glycerine has the further advantage that it affords an extra security against the bile being the medium by which infection is conveyed, for we have already seen that Professor Koch's experiments proved that glycerine is very destructive to the rinderpest poison. It appears, however, to weaken the immunising power of the bile, and it has been found necessary in order to get good results to inoculate the animals about ten days after the injection of bile with virulent blood. This is a distinct advantage, for the experience gained during the last six months in the preventive treatment of rinderpest goes to prove that it is advisable in actual practice, in order to obtain reliable results, that the cattle treated should if possible have a modified attack of the disease. Another point in favour of the glycerinated bile is that all except very watery and putrid biles can be used in its preparation, and consequently a much smaller percentage of cattle have to be sacrificed in its production than under Koch's original method, in which only selected galls can be used.

The following telegraphic report furnished by Mr. Hutcheon gives in a concise form his experience of the methods and results of inoculation in the colony from March to the end of July, 1897: "Since the beginning of March last we have carried out Koch's method of bile inoculation as carefully as practicable in accordance with his directions, but experience has shown that however carefully the bile may be selected and the operation of inoculation performed the results are very irregular and in not a few instances intensely disappointing. The fact is that we are not in possession of a simple practical test to enable us to distinguish between a bile which is both safe to use and permanent in its immunising effects and biles which are either too strong and communicate the disease to the animals inoculated or too weak and do not confer immunity for any length of time. In order to obviate this irregularity we have adopted the method of mixing the biles before sending them out, and in this way hope to secure more uniform results. We have recently, relying upon the experiments conducted by Dr. Edington, adopted his method of inoculating with glycerinated bile, which briefly consists in mixing all clear biles of whatever colour with glycerine in the proportion of one part of glycerine to two parts of bile. This mixture is then kept for eight days before being used, and twenty cubic centimetres are injected in each full-grown animal. It is claimed for this glycerinated bile that it does not communicate the disease as Koch's bile is liable to do, and although we have no means at present of judging of the length of the immunity conferred, as it has only been practised for a very limited time, yet a number of tests appear to show that the immunity which exists on the tenth day is as complete as the immunity conferred by Koch's bile at the same period. Hence it is recommended that in every instance in which the glycerinated bile is used it should be followed on the tenth day by an injection of $\frac{1}{10}$th of a cubic centimetre of virulent blood. In a number of herds experimented on $\frac{2}{10}$ths of a cubic centimetre of rinderpest blood were used for this second inoculation with satisfactory results; less than 2 per cent. succumbed to the test, but a considerable number were somewhat seriously affected. For that reason I have recommended that $\frac{1}{10}$th only should be used, as this dose can be followed at later stage by a larger dose with perfect safety. But while recognising the value of this bile inoculation, that it is the only practical method of carrying out inoculation on such an extensive scale as has now been forced upon us, we are at the same time cognisant of the superiority of what is called the serum treatment, and we are making provision to deal with all infected herds by that method and hope to be able to extend it to all clean herds as the number of highly immunised animals at our disposal increases. Respecting the measures which we have adopted for carrying out the bile inoculation, one or more stations are established in each district for the production of bile. To these stations all cattle-owners are required to bring a percentage of their cattle sufficient to produce bile for the remainder. These cattle are inoculated with rinderpest blood on their arrival at the station, and are kept there until they either die or are killed at the proper time, when the bile is extracted and prepared, and then distributed amongst the farmers for the inoculation of their cattle."

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Report of the Medical Officer of Health of the County of Lancaster.

THE report of the medical officer of health for the county of Lancaster (Mr. Edward Sergeant) shows that the health of the county for the year 1896 has been satisfactory. The number of births registered in the county districts under review for that year were 52,318, corresponding to 28·73 per

1000 of the population. There was a marked reduction in the number of deaths as compared with the previous year, the total of which amounted to 31,653. In both urban and rural districts the births of males exceeded those of females. In the urban districts the disproportion in numbers between the two sexes was further increased by a greater female mortality, the reverse being the case in the rural districts. The corrected death-rate for 1896 was 16·61 per 1000, as compared with 18·3 per 1000 in the previous year; while for the seven years 1889-95 the average death-rate was 18·7 per 1000 of the population. Infant mortality shows a considerable reduction, which is mainly due to climatic conditions. In the matter of dairies, cowsheds, and milk-shops the report states that inspections under the Local Government Board order were very unsuccessfully carried out, the conditions of cowsheds in a large number of districts being insanitary. Childwall appears to be a very healthy urban district. Five births and only one death, and that of an infant six weeks old, who died from whooping-cough, were registered there during the year. The birth-rate in Garston was 31·5 per 1000 of the population and the death-rate 14·1 per 1000, a reduction of mortality as compared with the figures of 1895. In this district there was a zymotic death-rate of 2·31 per 1000, whilst the hospital accommodation is complained of as being too limited. The report deals most favourably with the districts of Great Crosby and Little Crosby, not a single case of infectious disease occurring in the latter district in 1896. The death-rate of Prescot was 19·7 per 1000, which, although lower than that of the previous year, might be regarded as much above the average of urban districts, the zymotic death-rate being 3·57 per 1000. In Skelmersdale the birth- and death-rates both show a reduction as compared with the previous year equal to 4·7 and 2·5 per 1000 respectively. There was an increase in the zymotic death-rate and the proportion of infant deaths to births rose considerably. The birth-rate of Southport was a little lower than in 1895, whilst the death-rate was the lowest ever recorded in that borough—viz., 14·46 per 1000. The zymotic death-rate was slightly higher than in the previous year, and the great preponderance of zymotic diseases in the rural as compared with the urban wards is regarded as most unsatisfactory. Mr. Sergeant points out that in the rural districts the habits of the people in the matter of "unrestrained and reckless inter-communication" greatly favour the spread of infection. In Warrington the birth-rate was 36·8 per 1000, the same as the previous year. The death-rate, 19 per 1000, showed a decided improvement. Measles was very prevalent, causing 63 deaths, against 111 in the previous year. The health of Widnes was, on the whole, favourable, the statistics of mortality showing an improvement on the previous year. Similar reference is made to the two rural divisions of Wigan.

The Hospital Sunday Fund.

The Hospital Sunday Committee, in their twenty-seventh annual report, deplore a falling-off in the Hospital Sunday Fund as compared with last year. On the other hand, the Hospital Saturday Fund showed a steady increase and more than counterbalanced the loss of £330 on the former fund. By the addition of the two funds the grand total was brought up to £11,871 8*s.* 11*d.*, leaving the sum of £11,400, which was distributed among the various medical charities. The Lord Mayor questioned the policy of fixing the Sunday collections for the month of January and felt that the date should be made to approximate more closely to that of the Saturday collection. A difference of opinion, however, prevails on this point. Sunday last was observed in Bootle as Hospital Sunday, and collections were made at the various churches and chapels in the borough and neighbourhood in aid of the funds of the Bootle Borough Hospital. The new mayor (Dr. J. McMurray) attended in his official capacity the morning service at Trinity Presbyterian Church and the evening service at St. Mary's Parish Church. The mayor's procession was one of the largest seen in Bootle for some years past.

Work at the Medical School of University College, Liverpool.

The winter session is now in full swing, the total number of students being about the same as last year. The numbers in the anatomical department are well maintained and the rooms are crowded. The students are working well and there is a plentiful supply of anatomical material. Great progress has been made with the formation of the anatomical collection and a new museum is among the urgent needs of the department. The new outbuildings and macerating accommodation have been of great use, especially during the past four months. Professor A. M. Paterson has been engaged on the dissection and maceration of an Indian elephant, the bones of which have been macerated completely (in sand) in the very short period of four months. Professor Paterson exhibited them on Friday night at the Biological Society. The new laboratories in course of erection are approaching completion and part of the physiological department will be in use after the Christmas holidays. The medical students' annual dinner will take place on the 27th inst.; the chair will be taken by Mr. Rushton Parker, the Professor of Surgery in University College.

Liverpool Medical Institution.

The biennial dinner of the Liverpool Medical Institution was held on Nov. 6th. The chair was occupied by Dr. Caton (the President), who was supported by the Lord Mayor and other prominent citizens. About 140 gentlemen sat down to dinner.

Police Horse Ambulance Service.

The offer of the Watch Committee to provide a horse ambulance day service for the Royal Infirmary, the Northern, Royal Southern, and Stanley Hospitals has been accepted. The hospitals are to provide the stabling. The Watch Committee will also provide a horse ambulance at the central fire station for the night service of all four hospitals and a second at Old Swan for the service of the outlying districts. When this service is completed Liverpool will be in an unique position with regard to its ambulance arrangements, no other town in the United Kingdom being similarly equipped. It will be necessary for the police to purchase three ambulances and six horses. No addition to the police force will be required.

Nov. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Medical Society, Edinburgh.

THIS society was formally opened on Friday of last week, by an address from Dr. T. Barlow of London. The lecturer discoursed on Infantile Scurvy to a large audience of senior students and a representative body of professors and lecturers. He described the clinical features of the condition and the anatomical changes which occurred in various parts, but more especially in connexion with the bones. He pointed out the association of these. He then argued from the phenomena present and from the effect of treatment that the condition was scurvy and not rickets. He thought that the condition was on the increase, and that it was attributable to the feeding of children on patent foods and on sterilised milk too much diluted. The address was illustrated by a number of diagrams and coloured drawings as well as by preparations in spirit. It was listened to with marked attention and was much appreciated. The vote of thanks was proposed by Dr. Carmichael, the president of the society, and seconded in a very felicitous speech by Professor Fraser.

Aberdeen University.

Mr. George Dean, M.A., M.B. Aberd., has been appointed Bacteriologist to the Antitoxin Department of the British Institute of Preventive Medicine, Sudbury, in succession to Dr. Wm. Bulloch. After graduation Dr. Dean spent some time in Berlin and Vienna, devoting himself mainly to the study of pathology and bacteriology. Since 1891 he has held the posts of assistant to the Professor of Pathology in Aberdeen University and assistant pathologist to the Aberdeen Royal Infirmary; more recently he was also appointed pathologist to the Royal Hospital for Sick Children. As university assistant in pathology he has conducted classes in morbid anatomy and histology and on advanced bacteriology, besides assisting Professor Hamilton in the general work of the department, including the research work in experimental pathology and bacteriology. Dr. Dean has taken a great interest in local medical societies and is secretary of the Aberdeen Medico-Chirurgical Society. His departure from Aberdeen will be a great loss to the medical school and to the profession generally in the north of Scotland. Fitting expression was given by his medical brethren to their high appreciation of his services when they met in large numbers in the Palace Hotel on the evening of the 9th inst., under the genial presidency of Professor Hamilton, to

congratulate him on his promotion to a new sphere of work and to present him with a handsome testimonial.

A Complimentary Dinner to Dr. C. O. Hawthorne.

On Nov. 12th, in the Windsor Hotel, Glasgow, a complimentary dinner was given to Dr. C. O. Hawthorne on the occasion of his leaving Glasgow. The attendance numbered about ninety, and was of a representative nature, among those present being Professor McCall Anderson, Professor Murdoch Cameron, Dr. Yellowlees, Dr. Wallace Anderson, Dr. Alexander Robertson, Dr. Lindsay Steven, Mr. Henry Clark, Dr. Middleton, Dr. Newman, Dr. Allan, and Mr. Henry Rutherfurd. Over forty apologised for their inability to attend, including Professor Cleland, Professor McKendrick, Professor Coats, Professor Ferguson, Professor Bower, and Dr. Hector Cameron. In their letters, and especially in the speech of Professor W. T. Gairdner, who was in the chair, there was evident a feeling of very sincere regret that Dr. Hawthorne was about to leave Glasgow, and that his valuable and untiring services to the medical profession, and particularly to the University, should be lost to the city. Dr. Hawthorne, in reply, referred to the regret with which he left the service of the University and Queen Margaret College, and advocated the equalisation of the conditions of examination in the medical faculty of the two bodies. He paid a warm tribute to the inspiring influence in the school of Professor Gairdner, who had done so much for the advancement of its name and fame. Dr. Hawthorne received a most enthusiastic welcome, and carries with him the warmest good wishes of the profession in Glasgow.

The Disciplinary Powers of the Scottish Universities.

I am glad to note that at a meeting of the Edinburgh University Court on Tuesday last a proposal was under consideration to obtain penal and disciplinary powers over graduates so as to empower a university to remove from its roll of graduates any graduate who may have been found guilty of a criminal offence or other misconduct. The Court while alive to the difficulties of the proposal agreed to confer with other universities on the whole matter and with that view to appoint representatives to a joint committee. This action on the part of the University of Edinburgh is very satisfactory. There had been some reason to think that the University of Edinburgh was behind the other universities in its desire to acquire such powers as are obviously needed in bodies which qualify so large a number of medical practitioners. But its action on Tuesday leads to the hope that this feeling has been changed. Considering its position as a school of medicine and its great influence over the other Scottish Universities, it is gratifying to have to report such a change. It is especially so in view of the near approach of the meeting of the General Medical Council, to which, doubtless, the action of the leading university of Scotland will be duly reported.

Nov. 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of Dublin.

THE opening meeting of the Dublin University Biological Association will be held in Trinity College on the evening of the 25th inst., when the President, Mr. Robert Woods, will deliver an inaugural address dealing with the subject of "Suppurative Middle-ear Disease and its Relation to the Exanthemata." The speakers will include Dr. Dundas Grant, President of the British Laryngological Association, Dr. Henry Swanzy, Dr. Joseph O'Carroll, and Professor J. Mallett Purser.

The Richmond Asylum.

The medical superintendent of the Richmond District Lunatic Asylum, Mr. Conolly Norman, at the fortnightly meeting of the governors which took place on the 16th inst. reported the death of one male patient from beri-beri and the occurrence of no less than fourteen fresh cases in the female house.

The Jubilee Medal.

Her Majesty has been graciously pleased to confer the Jubilee Commemoration Medal on Surgeon-Major-General A. F. Preston, M.B. Dub., Principal Medical Officer in Ireland.

Municipal Honours to Medical Men.

Sir R. Jackson, C.B., F.R.C.S.I., and Dr. John J. Cranny were elected Commissioners for the Pembroke Township of Dublin on the 15th inst.

The Typhoid Fever Epidemic at Ligoniel.

Thirteen new cases have occurred up to Nov. 9th, which shows a distinct decline in the epidemic. Since Oct. 6th there have been six deaths. The question of the water-supply is a most difficult problem. The Water Commissioners only recently came into possession of the springs supplying the upper portion of Ligoniel (these are the contaminated ones), which before this belonged to the board of guardians, who were the water authority of the district. The Commissioners say that the springs were under the control and in custody of the guardians and the whole surroundings with the possibilities of contamination were fully known to them. They say that no steps were taken to guard against pollution and that the tank containing the water seemed never to have been cleaned out since it was made. The Commissioners cannot, they say, without the fullest investigation and for the strongest reason consent to abandon any of the waters supplying the village. Ligoniel is 600 ft. or 700 ft. above sea level; the Commissioners' filters are only 200 ft. above sea level. Hence it will require from nine to twelve months to provide steam engines, a reservoir, and mains for the purpose of raising filtered water from the filters to Ligoniel. The Commissioners having no means of providing a temporary supply decline to take the responsibility of cutting off the water. They will take any steps possible which the guardians may suggest to remove or remedy the causes of danger, but they throw on the guardians the responsibility of cutting off the water-supply. Last week the Commissioners ran off all the water in the pipes, the fountain, and the reservoir, which they cleaned out. The inhabitants of Ligoniel have wisely been advised under present circumstances to boil all the water used.

Serious Condition of Omagh Asylum.

At the meeting of the governors of the Omagh Asylum held on Nov. 11th, Dr. George P. O'Farrell, Inspector of Lunatics, presented a report, the result of a very careful inspection of the asylum by himself, his colleague, Dr. Courtney, and the consulting architect of the Board of Control. He thinks greater efforts should have been made to remedy defects in connexion with the old system of drainage and sanitary appliances which were to be removed on the completion of the new works. In regard to the percentage of deaths on the average number resident in 1896 it gave a high average for an Irish asylum—viz., 9·8. But this average had been largely exceeded in the current year, as since Jan. 1st last there has been an unusual amount of serious sickness and a heavy mortality. From Jan. 1st until Oct. 1st there had been 388 cases of sickness, with 79 deaths, the majority of which were due to phthisis or other respiratory diseases. Throughout the present year there had been an epidemic presenting in many cases symptoms of typhoid fever but which in the asylum books were described as influenza in accordance with the opinion of the consulting and visiting physician of the institution who stated that in his large practice in the surrounding country he had seen many similar cases which were undoubtedly of an influenza nature. On the male side there had been 83 such cases with 18 deaths, and on the female side 40 with 5 deaths. There were five cases of erysipelas among the patients, and one man was attacked with unmistakeable typhoid fever. Apart from the question of overcrowding and sanitation Dr. O'Farrell reports that the condition of the asylum is not quite satisfactory. There is a relatively large number of excitable patients in certain divisions, and many express frequent complaints of violence or discontent with their treatment. The number of such cases was greater in the Omagh Asylum than in the neighbouring asylums. The changes among the attendants by resignation and dismissal were frequent, and there were numerous charges of intemperance amongst them brought before the board. An institution was improved by raising the knowledge and status of those in immediate and constant charge of the patients. Sufficient attention was not devoted to the recreation of the patients; the food was not satisfactory, and a more liberal and varied dietary might be introduced. Dr. O'Farrell did not blame the management of the institution, which had been thrown into confusion by the structural works in progress. He recommended the formation of a visiting committee to

go carefully through the different divisions, and the sick and infirm should be placed in charge of a trained hospital nurse. Mr. Parry, C.E. (Dublin), reported that the existing drainage plans were found by him in many respects to be incomplete and unreliable; the general arrangement of water-closets was imperfect and antiquated, and there was a cesspool which was a source of danger to the inmates. In one of the tanks the water was quite unfit for drinking and it was not a little remarkable that this water supplied the divisions in which by far the largest number of cases occurred, and this water was condemned by the analyst. In another tank the water was in an exceedingly dirty condition. He thought this evidence in regard to the water (bad storage arrangements and uncleanliness of the tanks) appeared to show that they were the most probable and immediate causes of the epidemic of typhoid fever, although the defects in the old drains might be regarded as one of the predisposing factors. The governors, looking on these reports as disclosing such a serious state of affairs, appointed a committee to consider them and they also decided to print and circulate these reports amongst the members of the Board of Control and to consider the recommendations of the committee at the January meeting.

The Belfast Royal Hospital.

At the annual meeting, held on Nov. 15th, it was reported that during the past year (ending Aug. 31st) 2101 new cases were treated in the wards, which with 143 remaining from the previous year made a total of 2244 intern patients. Of these 1279 were surgical and 965 medical. There were 21,819 new extern cases, so that if intern and extern patients be added together there is found in Belfast, a city with a population of 300,000, the large number of 23,920 persons receiving treatment at the Royal Hospital. 138 students attended the hospital during the winter and 98 during the summer session. The receipts from all sources for the year were £7355 11*s.* 4*d*, and the expenditure was £8095 3*s.* 5*d.*, consequently there is a balance against the hospital of £739 12*s.* 1*d.* The year commenced with a debt of £1068 1*s.* 2*d.*, and it ends with a deficit of £349 1*s.* 11*d.* Reference was made at the meeting to the very important and encouraging fact that during the year a sum of upwards of £100,000 has been collected or promised for a building on a new site, a fact which shows plainly that the claims of the hospital were never more fully recognised by the public than at present.

Medical Candidates for the City Council.

The municipal elections consequent on the enlarged area of the City of Belfast are now in full progress, and amongst the candidates for the posts of aldermen and councillors are eleven members of the medical profession.

Nov. 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Over-Expenditure in Hospitals.

DR. NAVAARE has presented to the Municipal Council a report upon the financial statement of the Assistance Publique for the year 1895. The increase in expenses had appeared to the council so extraordinary that further inquiry was necessary. The total sum spent by the Assistance Publique was 36,600,856 francs, being 441,242 francs in excess of the sum spent in 1894. One of the most extraordinary items in the expenditure is the sum set down for milk, and one can only wonder where all the milk has gone to, seeing that there has been no proportionate diminution in the consumption of wine and beer. Dr. Navarre attributes this state of affairs to gross negligence in the administrators of hospitals, who have exercised no proper control over the resident staffs, &c. At Bicêtre it appears that 100 litres of milk have been used in the preparation of *bœuf à la mode* and 27 litres in the due cooking of some rabbits, while several patients were entered as the recipients of milk which they were not getting. During 1895 the price of charcoal dropped, but under the item of *chauffage* 150,514 francs have been expended, or 80 francs in excess of what was spent the previous year. The sums spent upon instruments and hospital fittings have been enormous, and designed, it is suggested, to attract wealthy patients and not to minister to the poor. From Cochin a requisition was made at the Central Pharmacy for 20,000 metres of silk ligature and 10,000 metres of catgut. This fantastic demand represented only the needs of three months and at the time it was made the hospital was in possession of 1800 metres of silk ligature sterilised and 8000 metres unprepared and 800 metres of catgut ligature sterilised and 1000 metres unprepared. A very good case for an investigation would seem to have been made out.

The Bacteriology of Acute Articular Rheumatism.

M. Thiroloix reports that since March last year he has found five times in the blood of persons suffering from acute muscular rheumatism the pathogenic bacillus. The bacillus appears in the first culture at variable intervals. Upon each occasion when he has made intravenous injections he has obtained cardiac and pleuro-pulmonary lesions as well as articular troubles, which have only made their appearance after the symptoms of affected heart. He gives it as his opinion, therefore, that cardiac lesions precede articular lesions or exist without them.

The Return of M. Raoul's Expedition in Malaita.

On Monday last M. Raoul, Pharmacien-en-Chef des Colonies, accompanied by M. Mary, Pharmacien-principal, arrived in the *Laos*. M. Raoul had been engaged upon a Government mission to make researches in Malaita into the indigenous plants with a view of seeing if any existed that might be turned to account scientifically or commercially. A number of natives took part in the expedition and several of M. Raoul's party were bitten by snakes of different sorts. They are stated to owe their lives to injections of Dr. Calmette's serum with which the expedition was amply provided.

An Accusation against a Graduate of the Faculty of Medicine.

For some days past a serious charge has been hanging over the head of M. Heim, a young graduate in Natural History. The newly-appointed professor in this subject, Professor Blanchard, upon taking up his department and the laboratory connected, asked M. Heim to make an inventory of the various specimens and apparatus belonging to this laboratory of which M. Heim had been in charge pending the election of the new professor. M. Heim, who was travelling, asked that the taking of the inventory might be put off, and when he returned, as he was then taking his holiday away from Paris, asked for a still further delay. As upon being asked a third time M. Heim still did not appear Professor Blanchard proceeded to make the inventory. He found in a box with M. Heim's name upon it various instruments and specimens labeled as M. Heim's personal property which belonged to the Natural History Museum of the Physiological Laboratory at the Faculty of Medicine and to sundry other laboratories where M. Heim had worked, objects which had been given up for lost though much sought after. Professor Blanchard accordingly drew up a report against M. Heim, and the latter, when at last he did come back, protested vehemently against the breaking open of his chest in his absence and further affirmed that he had no intention of appropriating these instruments of which he had made legal use in his researches before he went away and that he had put them all away in a hurry before his departure, putting them all together that he might know where to find them when he came back. The Rector of the Academy of Paris, M. Gréard, took the advice of the University which had already nominated a disciplinary committee according to its own laws and regulations. So the matter has been submitted to this committee for inquiry. Some doubt arose as to whether the University had power to take up a case of this sort but it was finally decided, upon a careful report drawn up by Professor Glasson of the Faculty of Law, that it had power. When all the formalities have been complied with the inquiry will proceed as rapidly as possible for a matter of this kind needs to be settled one way or the other as soon as possible. It is hardly likely, however, that a decision will be given before the end of the week. The Commission sat for the first time on Friday, Nov. 12th, to hear the reading of the report of Professor Blanchard. M. Heim appeared before it on Saturday, and on Monday the hearing of the witnesses, who are thirty-two in number, was commenced.

The late Dr. T. W. Evans.

Dr. Thomas William Evans, the well-known American dentist, died on Nov. 14th at his house in the Avenue du

Bois de Boulogne. When the Empress Eugénie quitted the Tuileries on Sept. 4th, 1870, she went in a cab to his house where she stayed the night and next day he travelled with her in a carriage to the coast. She then succeeded in escaping from France in a small vessel which landed her at Ryde. Dr. Evans's practice was very select and several crowned heads availed themselves of his skill. He was the proprietor of the *American Register*.

Nov. 16th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Virchow's Jubilee.

THE fiftieth anniversary of Professor Virchow's joining the teaching staff of the Berlin University was celebrated on Nov. 6th. In 1847 Professor Virchow, who had previously belonged to the Army Medical Staff, was appointed a *privat-docent* at the University, but political considerations were all-powerful after the revolutionary troubles of 1848, and as he was known to hold democratic opinions he was under the necessity of leaving Berlin and accepting a professorship at Würzburg, in Bavaria. His exile, however, did not last very long, for as far back as 1856 he was elected Ordinary Professor of Pathological Anatomy in Berlin, an appointment which he still retains. On account of Professor Virchow's infirm state of health the jubilee proceedings were of a more private character than would have otherwise been the case, being limited to addresses of congratulation delivered by the rector of the University and the dean and professor of the medical faculty. The rector, Professor Schmoller, referred to Professor Virchow's achievements not only as a physician and a pathologist, but also as a biologist and as a savant whose methods of research had influenced every branch of human knowledge. The dean, Professor Heubner, eulogised him as a *privat-docent* of an altogether superior order—a teacher not only of students but also of professors. At an age when young men were, as a rule, far from having mastered what had been already discovered he had succeeded in solving the most difficult problems of biology. Professor Virchow in his reply pointed out that he was happy in the knowledge that a body of men now existed in German universities strong enough not only to maintain the principles laid down by him but also to continue the work in the light of modern developments. He felt that his work was done and that he was now entitled to retire from his academical position, especially after having succeeded in obtaining a promise from the Government that a new and modern pathological institute and museum would be constructed after his designs. A great number of telegrams, letters, and other marks of Professor Virchow's great popularity were received by him during the day.

The Training of Nurses and the Removal of Hospital Patients in London.

In the "Verein für Innere Medicin," a paper has been read by Dr. George Meyer on the Medical Institutions of London. The author, who had spent several weeks in the English metropolis at the time of Queen Victoria's Diamond Jubilee, first mentioned the display of nursing appliances in connexion with the Victorian Era Exhibition at Earls Court, which, he said, offered an opportunity of realising the high standard of nursing in England. In his opinion nurses were very well trained in England, the length of service required from probationers enabling them to get a more perfect knowledge of their duties than in other countries. He gave particulars of the different training schools, spoke of hospital nurses, private nurses, and district nurses, and showed specimens of the rules and regulations of several nursing institutions. He then passed on to the First Aid and ambulance arrangements made by the St. John Ambulance Association, which he had seen at work on the occasion of the Jubilee procession. The principal feature of Dr. Meyer's paper was an account of the mode of removing infectious cases. He had for a long time urged the necessity of reform in the ambulance arrangements in Berlin, and he now described the ambulance vehicles belonging to the different London hospitals and showed photographs of some of them. He also described the mode of notification of infectious disease and the duties of the medical officers of health in connexion with the disinfection of dwellings. He specially commended the mode of conveying patients to hospital and the consideration with which their friends were informed both of their condition and of the appearance of dangerous symptoms; the printed forms used for this purpose were also shown to the society. Dr. Meyer concluded his remarks by expressing his thanks to the hospital managers, and to the medical officers who had kindly assisted him in his inquiries.

Dr. Calot's Treatment of Spondylitis.

Dr. Calot's method of treating spondylitis by "brisement forcé" of the vertebral column has been tried by some German surgeons and orthopædists, and in the *Deutsche Medicinische Wochenschrift* Professor Lorenz, of Vienna, discusses the subject from a theoretical point of view. He says that the risks of this method are very great, for not only may the spinal cord be injured, but prævertebral abscesses may burst and discharge their tuberculous contents into the surrounding tissues. But even if these apprehensions are unfounded (as they are, in fact, in Dr. Calot's opinion) the success of the treatment must obviously depend upon the regenerative power of the broken vertebra. The question is whether this power is strong enough to form so much new osseous substance that the cavity in the vertebra produced by the tuberculous process may be filled up for without a sufficient formation of new osseous substance a relapse must of course occur sooner or later. Professor Lorenz therefore warns patients and medical men not to entertain too great expectations, especially as little more than a year has elapsed since Dr. Calot began his treatment, and this time is too short for the formation of a decided opinion. The procedure described by Dr. Calot consists in forced traction of the vertebral column by two assistants who seize both ends of the trunk whilst the surgeon himself produces a "brisement" of the deformity by making firm pressure on the prominent point of the vertebral column. This procedure is rather rough, and will undoubtedly be replaced by the use of instruments which will allow the force exerted in traction and pressure to be graduated according to the individual case. Professor Lorenz has hitherto treated only one case after the new method, the patient being a boy, ten years of age, who had suffered from spondylitis for three years. A year ago a slight paresis of both legs developed, sensibility and the control of the bladder and rectum remaining normal. There was no pain and the boy's general state was comparatively good. The "redressement" was performed strictly in accordance with Dr. Calot's directions, chloroform being administered during the operation. Professor Lorenz found it easy to straighten the curvature and to apply the plaster bandage; but when the patient recovered from the anæsthesia there was total paralysis of the lower extremities, together with anuria and paralysis of the rectum. Control of the bowels and bladder was regained after a fortnight, but the paraplegia still persists. The plaster bandage was, of course, at once removed, and the curvature is now, two months after the operation, nearly the same as before. Professor Lorenz is far from judging the method by the result of only one case, but obviously the operation is not so harmless as its author alleges.—The same subject was recently discussed at a meeting of the Medical Society of Hamburg. Professor Krause mentioned that Dr. Calot in thirty-seven cases had only once observed a slight paresis following the operation, and he suggested some modifications of the plaster bandage, by which it might be made less irksome to the patient. He allows patients to leave their beds very soon, a matter which is very important for their general health. Two cases were shown. One of these patients was a girl, six years of age, with lumbar spondylitis and a chronic pelvic abscess on the left side. The abscess was treated by puncture and injections of iodoform. The "redressement" required fifty minutes, considerable force being necessary to overcome the deformity, and the application of the bandage occupied nearly the same time. The patient could leave her bed after three days. The other patient was a boy, aged ten years, and the operation was finished in twenty minutes. Both patients were shown to the society and were able to walk freely with the bandage. In the discussion Dr. Kümmel stated that one of his cases, a child, was insensible for three days after the operation, but eventually recovered and now felt quite well. He proposed the adjournment of the discussion for a few months till more ample experience should be accumulated.

Nov. 15th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Italian Commission on the Pestis Bubonica (concluded).

PROFESSOR LUSTIG and his colleagues arrived in Bombay on June 12th to find an exacerbation of the epidemic owing to the monsoon and torrential rains, and, loyally aided by the British authorities, they lost no time in utilising their opportunities. Besides attending assiduously at the hospitals they put their services to the test at the Veterinary College, and the experiments conducted there by Dr. Galeotti and Dr. Malenchini yielded satisfactory results. "Only the apes not treated with the serum died after three or four days from the plague," according to Professor Lustig. The distrust of serotherapy on the part of the natives, both professional and lay, restricted its application only to typical cases in the foci of recent infection and in those forms held by the local physicians to be especially grave; and here, again, Professor Lustig claims to have "scored a distinct success." The effects of the serum, he says, revealed themselves after six hours; the high fever subsided, the delirium disappeared, and a general improvement set in. "The bubbone" after the second or third injection gave no more pain, a condition of "benessere" (well-being) ensued, and convalescence was less protracted and debilitating than in the cases, not frequent, in which the patient made a natural recovery. Out of thirty typical cases of the pestis bubonica subjected to his serum treatment, only four, says Professor Lustig, died. The serum, moreover, produced of itself no malady whatever. It is, he admits, inefficacious when the bacilli of the pestis have in millions penetrated the torrent of the circulation—this latter taking place between the fifth and seventh day of the disease. So much for the cure. As to the prophylaxis, "the preservative vaccinations," he says, "could not be executed in a crucial manner in a country like India, with a population rootedly prejudiced against it; and from operations among persons like Europeans, Neo-Christians, and Parsees, who are much less liable to the pestis than the Hindoos, no certain or decisive data could be obtained. And even when numerous vaccinations were affected, how could we know whether they had been efficacious or for how long a time? ..... I thought that if we wanted to assure ourselves of the efficacy of our preventive vaccine and to bring it home to the mind of others we ought to try it on man in such circumstances only as admitted of our 'vaccinating' all the individuals who were in contact, direct or indirect, with the plague-stricken in the most virulent period of the infection. This opportunity I had at Poona, where the pestis having broken out in a native regiment, they were all, together with their families, isolated in a place of observation. But of this opportunity I could not avail myself because the military authorities did not think it prudent to oblige, contrary to custom, Hindoos and Mahometans to undergo operations which excited their misgiving and discontent. The biological affinities between the ape and man and the identity of the *forma morbosa* between them counselled our resolving the problem of immunisation by utilising apes. My two colleagues, Dr. Galeotti and Dr. Malenchini, to whom the experiments were entrusted, with the help of the assistants of the British School, succeeded in demonstrating that our vaccinal practice preserves those animals in an absolute manner from the pestis even when most virulent, while the same apes concurrently infected with the same quantity of pestiferous matter and through the same channels, but not vaccinated, died without exception. How long," continues Professor Lustig, "does the immunity remain effective? Certainly a month. Whether longer, and how much longer, our experiments now proceeding will determine. Having demonstrated," he adds, "the curative efficacy, even in man, of the serum prepared by us we would gladly have extended the use of it on a larger scale; but for us life in India was costly, as also was the preparation of the serum, and our sojourn had to close in two months. The object of our mission was, however, attained." Professor Lustig concludes his report by illustrating the uphill fight maintained by medical science in India against native obstruction. England has to combat self-styled "reformers" who ostensibly adopt her innovations but secretly neutralise them, using for their purpose the immense leverage provided them by religious superstition. This vindication of our efforts by Professor Lustig will be read with interest at a time when representatives of other continental powers are the reverse of charitable in criticising our methods.

Nov. 14th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board under the "Four Years Regulations":—

Materia Medica:

Beasley, Ernest Cecil Watkins.
Braidwood, Thomas Lithgow.
Claridge, William Walton.
Courtenay, Frederick William Edward.
Hughes, John Worthington.
Jones, Thomas.
McCarthy, Thomas.
Morris, Richard Clayton.
Williams, Penry Garnons.

The following gentlemen passed the necessary examination of the Board in the subjects indicated under the "Five Years Regulations":—

Part I., Chemistry and Physics:—

Ashton, John Hilton.
Bent, Sidney Charles Henry.
Bradley, Charles Reginald.
Browne, William Walker.
Butcher, Harry Hendy.
Camper, James.
Cowper, Claude Marriott Lovell.
Crofts, Arthur Douglas.
Dix, Charles.
Elwood, William Henry.
Ferguson, Lionel Cecil.
Goldie, Walter Leigh Mackinnon.
Harvey, Arthur George.
Higgins, James Gilkinson.
Hollist Gerald Wetherell Capron.
Ide, Harry.
Jacques, Harold.
Keir, John Duncan.
Latham, Thomas Jones.
Lawry, Richard Coger.
Lemon, Charles John.
Margetts, Horace Palmer.
Martin, William.
Mummery, Norman Howard.
Murdoch, Horace Thomas Thorns.
Oades, Geoffry Smith.
Paget, Walter Gray.
Pallant, Santiago Luis.
Paterson, Edward Haldane.
Poyser, Richard Cruikshank.
Smith, Frank Wybourn.
Spalding, Archibald Denize.
Van Dyk, Adriaan Francois.
Waddell, Hugh.
Wallis, Harold Wishaw.
Wilmot, Reginald Cameron.

Part II., Practical Pharmacy:

Baker, Dodington George Richard Sherston.
Bannerman, Charles Harold.
Barnes, George.
Blake, Percy Ryall.
Boyle, Henry Edmond Gaskin.
Butler, Archibald.
Cheese, Frederick William.
Clark, John Wilders Hambly.
Crowther, Sydney Nelson.
Ekins, Charles Maxwell.
Elworthy, Henry Herbert.
Evans, Edward.
Gauld, Reginald.
Griffith, Idwal.
Grimwade, Alfred Sheppard.
Harris, Henry Arthur Clifton.
Higgins, Alexander George.
Hobbs, Albert Remington.
Hope-Simpson, Adam Pearson.
Hutchinson, George Arnold.
Kennard, Douglas Frederick.
Latham, Godfrey Holland.
Nourse, Arthur William.
Pinker, Henry George.
Randolph, William Henry.
Roche, Nelson Joseph.
Ross, Hugh Campbell.
Samuel, David.
Smith, Francis Maylett.
Soper, George Bertram Spencer.
Stolterfoth, Charles Sigismund.
Thompson, Reginald.
Turtle, Godfrey de Bec.
Vores, Cyril Preston.
Wells, John.
Wood, Frederick Joseph.

Part III., Elementary Biology:

Arnould, Loris Arthur.
Beadel, Algernon James.
Crampton, Walter.
Fullagar, Walter Swainson.
Hughes, Geoffrey Wallace Grainger.
James, Reginald Valpy.
Jones, Alfred Lancelot.
Keed, Charles Russell.
McCowen, William Terrance.
Oakeley, Arthur Eckley.
Paterson, Edward Haldane.
Sansom, Bertram Eli.
Snell, John Percy Brooking.
Tatchell, William Arthur.
Thornton, Edward Newbury.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following are the arrangements for the Final Examination for the Fellowship, for which forty-five candidates have entered their names, viz.:—

Monday, Nov. 22nd.—Written Examination, 1.30 to 5.30 at Examination Hall.

Tuesday, Nov. 23rd.—Clinical Examination, 2.30 to about 5.30 P.M. at Examination Hall.

Wednesday, Nov. 24th.—Operations, 1.30 to about 6 P.M. at Examination Hall.

Thursday, Nov. 25th.—Surgical Anatomy, 2 to 4.15 p.m. at Examination Hall.

Friday, Nov. 26th.—Pathology, 5 to 7.30 P.M. at Royal College of Surgeons.

Saturday, Nov. 27th.—Pathology, 5 to 7 P.M. at Royal College of Surgeons.

All candidates will be required to attend on Monday, Tuesday, Wednesday, and Thursday, and on Friday or Saturday.

FOREIGN UNIVERSITY INTELLIGENCE. — *Berlin:* Dr. Hermann Munk, Extraordinary Professor of Physiology, has been promoted to the rank of Honorary Ordinary Professor.—*Cracow:* Dr. Léon Wachholz, Extraordinary Professor of Forensic Medicine, has been promoted to an

Ordinary Professorship.—*Gratz:* Dr. Alfred Kossler has been recognised as *privat-docent* of Internal Medicine.—*Lemberg:* Dr. Oscar Widmann has been recognised as *privat-docent* of Internal Medicine, and Dr. Gustav Piotrowski as *privat-docent* of Physiology.—*Prague (Bohemian University):* Dr. Wenzel Rubeska, *privat-docent* of Midwifery and Gynæcology, has been promoted to an Extraordinary Professorship.—*Utrecht:* Dr. H. Zwaardemaker has been appointed Professor of Physiology in succession to Dr. Engelmann.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—An examination for the certificates in psychological medicine issued by this association will be held in London, Edinburgh, Glasgow, Aberdeen, and Dublin in December. The exact date has not yet been fixed, but will be duly notified in our columns. At least fourteen days' notice must be given by intending candidates to Dr. Spence, Burntwood Asylum, Lichfield, who is the registrar of the association.

FREEMASONRY.—*The Rahere Lodge, No. 2546.*—An emergency meeting of the Rahere Lodge, No. 2546, was held at Frascati's Restaurant on the evening of Nov. 9th, Bro. W. J. Walsham, W.M., being in the chair. Messrs. Cripps Lawrence, John Adams, Trechmann, and Westbrook were initiated into Freemasonry by Bro. Godson. Bro. Surgeon-Major J. G. Harwood, M.S., and Bro. Dr. M. A. Haviland, of Penang, Straits Settlements, were elected joining members. Bros. McLean, Haines, Sargant, Matthews, and Shewell were admitted to the third degree by the W.M. Thirty-four members with their guests afterwards dined together.

LITERARY INTELLIGENCE.—Commencing with the New Year, Messrs. John Wright and Co., Bristol, will be the European publishers of *The Laryngoscope*, a monthly journal of sixty-four pages devoted to diseases of the nose, throat, and ear. It is the official organ of the New York Academy of Medicine, laryngological section; the American Laryngological, Rhinological and Otological Society, southern section; and the Western Otological, Laryngological and Rhinological Association. In the new volume it is intended that the British contributions shall form a more prominent feature than heretofore. The price is 1*s.* per month, or 10*s.* per annum, post free.—The Rebman Publishing Company have ready for early publication a small book by Mr. D'Arcy Power entitled "Some Points in the Anatomy, Pathology, and Surgery of Intussusception," being the Hunterian Lectures for 1897 delivered at the Royal College of Surgeons. They will also issue next week Dr. Alexander Morison's new book on "Cardiac Failure and its Treatment, with especial reference to Baths and Exercises," which has been unavoidably delayed in the press.

PRESENTATIONS TO MEDICAL MEN.—In the medical officer's room at the Plymouth municipal buildings, on Oct. 29th, Mr. F. M. Williams, L.R.C.P. Edin., M.R.C.S. Eng., D.P.H. (the medical officer of health), in the presence of the staff of the Sanitary Committee, presented Mr. J. H. S. May, M.R.C.S. Eng., L.S.A., J.P., who has been for several years chairman of the Sanitary Committee, with an illuminated address and a silver bowl bearing the following inscription: "Presented to J. H. S. May, Esq., J.P., by the staff of the Sanitary Committee on his retirement from the Plymouth County Council, October 31st, 1897."—Mr. James Fletcher, M.B., C.M., D.P.H. Aberd., has been presented with a silver-mounted dressing-bag by the members of the nursing and working staff of the City Hospital, Aberdeen, as a mark of their appreciation of his services for two years as resident physician and lecturer.—A complimentary dinner was given at Weston-super-Mare on Oct. 27th to Mr. G. B. Fraser, M.R.C.S. Eng., L.S.A., who is relinquishing the captaincy of the volunteer fire brigade after having held the appointment for a considerable period. During the evening Mr. Fraser was presented with a pair of silver candlesticks.—At a meeting on the 5th instant of the Dunston Colliery Ambulance Classes in the board schools, Dunston, for the purpose of presenting the successful candidates with medallions or certificates, Mr. A. A. Abraham, L.R.C.S. Irel., of Gateshead, was the recipient of a meerschaum pipe from the members of the classes.—At the Conservative Club, in Cardiff, on the 9th inst., a presentation was made to Mr. Edward Treharne, L.R.C.P. and S. Edin., J.P., in recognition of his services as chairman of the Cardiff Conservative Association for eight years, from 1889 to 1897. The presentation consisted of three silver fruit and flower bowls, candle-sticks, and a pair of entrée dishes.

HENSHAW'S BLIND ASYLUM.—Some changes are proposed in the scope and management of this old and important institution for the blind. At the quarterly meeting of the trustees and board of governors held on the 3rd inst. it was mentioned that there were now 202 inmates, the largest number ever reached, and the asylum "was taxed to its utmost capacity in housing and instructing them." Of these 92 were children. The board considered it of the utmost importance to admit children to be educated and all applications for them had been granted. Men are kept in the asylum for a few years only until they have learned a trade when they go out and earn their own living. The benefits of the asylum are not confined to Manchester, for of seven applicants elected at the meeting two were from Macclesfield. All these were children, the eldest not being more than sixteen. The board considered several additions and alterations in the scheme of the charity for which it was decided to ask the sanction of the Charity Commissioners. One was that the age for admission "be not less than five years instead of nine." Another was that the board of governors should have power to grant pensions or subsidies to blind persons. It was pointed out that this was done in Yorkshire institutions, in York, Leeds, and Bradford, and the pensions granted were received by about 2000 persons. This has, indeed, virtually been done at the Old Trafford institution, and the board "were now going to the Charity Commissioners to legalise what they had been doing and ask at the same time for some scheme more comprehensive and elastic" than the present one. We may hope that their beneficent illegality will be pardoned. Cases occur where persons become blind in following their avocations and if they wished to live with their friends it would be a hardship for them to be kept in the asylum. It appears, also, that elderly people can be boarded out for less than they cost in the institution and the space gained by the removal of the old people can be utilised for children for educational purposes. The pensions and subsidies are frequently before the board for supervision and can be cancelled or continued at discretion. The meeting also approved of an application for investing the board of governors with "power to purchase land or buildings for the extension or development of the objects of the charity."

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—At a meeting of this society held on Oct. 29th Dr. Dundas Grant, the President, showed three cases of Frontal Headache of Nasal Origin. The first was dependent on frontal sinus disease. The patient was a man, aged twenty-eight years, who complained of left frontal headache and discharge from the left nostril. Exploration of the maxillary antrum yielding a negative result the anterior part of the middle turbinal was removed, a Hartman's tube was introduced into the frontal sinus through the natural orifice, and a 1 per cent. solution of menthol was injected by means of a syringe. The headache had diminished but not yet disappeared. The second case was dependent on sphenoidal sinus disease. The patient was a woman aged twenty-nine years. A slight degree of relief was obtained by an incomplete removal of polypoid outgrowths from the middle turbinal. Complete relief had been obtained on a later occasion, when during syringing a mass of polypoid growth detached itself from the interior of the nose and was found to be growing from a plate of bone which came away with it. A large opening was then found leading into the sphenoidal sinus and the plate of bone was obviously the anterior wall of this cavity. The third case was due to suppuration in the antrum of Highmore. The patient was a woman aged fifty-one years. Mr. Lennox Browne and Mr. Marsh made some remarks on these cases.—Mr. Wyatt Wingrave showed a case of Aphonia with Paralysis of the Tensors of the Vocal Cords in a man, aged twenty-five years, who suffered from sudden loss of voice for four weeks and huskiness for twelve months, with slight cough, but no expectoration; in other respects he expressed himself as being in perfect health. Laryngoscopic examination showed slight peri-arytenoid swelling extending to the ventricular bands. The interrupted current with vocal drill quickly restored the voice, which was now strong but deep in tone and somewhat uncertain. Mr. Bark, Dr. Whistler, and others took part in the discussion.—The Presidential address on Some Lines of Progress in Laryngology, Rhinology, and Otology was delivered by Dr. Dundas Grant, who then showed a series of four cases of mastoid operation.—Mr. Wyatt Wingrave showed a case of Tuberculous Disease of the Middle-ear complicated by Optic Neuritis

occurring in a woman, aged twenty-five years, who had suffered from a painless discharge with deafness from both ears since infancy, and whose family history was strongly tuberculous. On Aug. 30th last she noticed dimness of vision in the right eye, and in three days became totally blind in that eye.

SUPERANNUATION OF A MEDICAL OFFICER.—At the meeting of the Bath Board of Guardians held on Nov. 3rd it was decided to grant a superannuation allowance of £36 per annum to Mr. Frederick W. Hanham, L.R.C.P. Edin., L.F.P.S. Glasg., who has just resigned the post of medical officer to the fourth district of the Bath Union, after having held the appointment for twenty-seven years.

MUNICIPAL MATTERS IN BRISTOL.—At the meeting of the enlarged Bristol Town Council, held on Nov. 9th, Mr. F. Richardson Cross, M.B. Lond., F.R.C.S.Eng., whose nomination we have already announced was unanimously elected High Sheriff; Mr. J. Hancocke Wathen, L.R.C.P. Edin., M.R.C.S.Eng., L.S.A., was elected an Alderman of the city; and Mr. Colston Wintle, L.R.C.P. Lond., M.R.C.S. Eng., was appointed on the new Health Committee of the council.

UNIVERSITY OF CAMBRIDGE.—At the Congregation on Nov. 11th, when the Archbishop of Canterbury and the Lord Chief Justice were admitted to honorary degrees, the following medical degrees were conferred:—Doctor of Medicine: G. J. K. Martyn, B.A., and J. R. Carver, M.A. Bachelor of Medicine and Bachelor of Surgery: A. E. Porter, B.A.—By the will of the late Dr. Joseph Gedge, who died in 1870 while with Sir Samuel Baker at Khartoum, a sum of £1000 has at length come to the University for the establishment of a biennial prize for original research in physiology, open to graduates of the University.—Mr. Hubert Higgins, B.A., M.R.C.S. Eng., L.R.C.P. Lond., one of the demonstrators of human anatomy in the University Medical School, was on Tuesday elected assistant-surgeon to Addenbrooke's Hospital in the room of Mr. Douty, resigned.

DIPHTHERIA IN LONDON.—During the week ended Nov. 6th there were registered 59 deaths from diphtheria in the county of London, against 45, 55, and 65 in the three preceding weeks. The 59 deaths were 11 in excess of the average of the corresponding weeks of the decennium 1887–96, and with one exception were of persons under twenty years of age. Between the ages of one and five years 37 deaths occurred. Seven deaths were of persons residing in Battersea; Mile End Old Town and Poplar were each credited with 5 deaths; St. Pancras and Newington each with 4; and Hackney, Lambeth, and Camberwell sanitary areas each with 3 deaths. There were 1056 cases of diphtheria in hospital at the close of the week, and 164 fresh admissions during the week. In the outer ring there were 17 deaths registered from diphtheria, of which 6 occurred in West Ham and 4 in Dartford registration districts. In the week ended Nov. 13th the registered deaths from diphtheria in London further fell to 46, the corrected decennial average being 51. Five deaths belonged to Poplar; Kensington, St. Pancras, Camberwell, and Wandsworth were each credited with 4 deaths; and Fulham, Clerkenwell, and Battersea sanitary areas each with 3 deaths. All the 46 deaths were of persons aged under twenty years, and 28 occurred in children aged from one to five years. The admissions to hospital during the week numbered 149, and 1066 persons remained under treatment at the close of the week. In the outer ring the registered deaths rose to 26, of which 10 occurred in Edmonton, 4 in Dartford, 3 in Hendon, and 3 in West Ham registration districts.

BOOKS, ETC., RECEIVED.

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Lectures on Angina Pectoris and Allied States. By W. Osler, M.D. 1897.

BALE, J. AND SONS, Great Titchfield-street, London, W.
Anatomical Lecture Diagrams. Price 2s. 6d. and 5s.

BAUERMEISTER, F., West Nile-street, Glasgow.
Neue Untersuchungen zur Pocken- und Impf-frage. Von Dr. H. Bömg. 1897.

BIGGS AND CO., Salisbury-court, Fleet-street, London, E.C.
House Drainage Manual: A Guide to the Design and Construction of Systems of Drainage and Sewage Disposal from Houses. By William Spinks. Illustrated. 1897. Price 5s.

CARRÉ, G., ET C. NAUD, Paris.
Le Torticolis et son Traitement. Par Dr. P. Redard. 1898.

CLAY, W. F., Teviot-place, Edinburgh.
Medical Diagnosis: A Manual of Clinical Methods. By J. J. G. Brown, M.D. Fourth Edition. Illustrated. 1897. Price 9s.

DORNAN, WM. J., Philadelphia.
Transactions of the American Gynæcological Society for the year 1897. Vol. XXII. 1897.

HOGG, JOHN, Paternoster-row, London.
Cookery for Invalids and Others. By Lizzie Heritage. Price 2s. 6d.

IDEAL PUBLISHING UNION, Farringdon-street, London.
Vegetarian Jubilee Library, edited by C. W. Forward. Vol. VI. The Gospel of Humaneness. 1897. Price 1s.

INNES, A. D., AND CO., Bedford-street, London.
Inspector-General Sir James Ranald Martin, C.B., F.R.S. By Surgeon-General Sir Joseph Fayrer, Bart., M.D. 1897. Price 6s.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., Charing-cross-road, London.
Studies in Psychical Research. By Frank Podmore, M.A. 1897.
The Elements of Hypnotism: the Induction, the Phenomena, and the Physiology of Hypnosis. By Ralph H. Vincent. Second Edition. Illustrated. 1897.

LEWIS, H. K., Gower-street, London.
The Principles of Bacteriology. By A. C. Abbott, M.D. Fourth Edition. Illustrated. 1897. Price 12s. 6d. net.
Mastoid Abscesses and Their Treatment. By A. Broca, M.D., and F. Lubet-Barbon, M.D. Translated and edited from the French by H. J. Curtis, B.S., M.D. Lond., F.R.C.S. Illustrated. 1897. Price 6s.

LONGMANS, GREEN, AND CO., London.
Transactions of the Clinical Society of London. Vol. XXX. 1897.

MACMILLAN AND CO., London.
Constipation in Adults and Children. By H. Illoway, M.D. 1897. Price 17s. net.
A System of Medicine. By Many Writers. Edited by T. C. Allbutt. Vol. IV. 1897. Price 25s. net.
A Text-book of Physiology. By M. Foster, M.A., M.D., assisted by C. S. Sherrington, M.A., M.D. Seventh Edition. Illustrated. Part III. 1897. Price 10s. 6d.
Mediterranean, Malta, or Undulant Fever. By M. L. Hughes. 1897. Price 7s. 6d.

PRINTED FOR THE ASSOCIATION, Philadelphia.
Transactions of the Association of American Physicians. Twelfth Session. May, 1897. Vol. XII. 1897.

REBMAN PUBLISHING COMPANY, Adam-street, Strand, London.
A Pictorial Atlas of Skin Diseases and Syphilitic Affections in the Museum of Saint Louis Hospital, Paris. Edited by J. J. Pringle, M.B., F.R.C.P. Part XII. 1897. Price 10s. 6d.

SANITARY PUBLISHING COMPANY, Fetter-lane, Fleet-street, London.
The Purification of Sewage and Water. By W. J. Dibdin, F.I.C., F.C.S. 1897. Price 21s.

SCIENTIFIC PRESS, Southampton-street, Strand, London.
Burdett's Official Nursing Directory for 1898: a Directory of Nurses. By Sir Henry Burdett, K.C.B. First year. Price 5s.

UNWIN, T. FISHER, Paternoster-buildings, London.
Masters of Medicine: William Harvey. By D'Arcy Power, F.S.A., F.R.C.S. Eng. 1897. Price 3s. 6d.

VOSS, L., Hamburg und Leipzig.
Atlas der Syphilis und Syphilisähnlichen Hautkrankheiten, für Studirende und Aerzte. Von Dr. M. Cnotzen. Hefte 3 and 4. 1897.

The Every Hour Diary, 1898: a full week visible at once; and Eason's Penny Diaries, indexed, for the year 1898 (Eason and Son, Middle Abbey-street, Dublin). — Christmas and New Year's Cards and Calendars, Booklets, &c., for 1898 (Raphael Tuck and Sons, Coleman-street, London, E.C.).—Report of an Investigation of the Epidemic of Malarial Fever in Assam, or Kala-azar; by L. Rogers, M.B., B.S. Lond., F.R.C.S. Eng. (printed at the Assam Secretariat Printing Office, Shillong, 1897).—The Journal of Anatomy and Physiology; October, 1897; Part I., Vol. 32; New Series, vol. 12; illustrated (Chas. Griffin and Company, Exeter-street, Strand); price 6s.—Letts's Diaries and Almanacks for 1898; Office Diaries, two editions; Medical Diaries, two editions; Pocket Diary and an Almanac; and One Day Pocket Diary and an Almanac (Cassell and Company, London).

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BARKER, GORDON C., M.D. Brux., M.R.C.S., has been appointed Anæsthetist to the Brighton and Hove Hospital for Women.

BEDDARD, A. P., M.A., M.B., B.C., M.R.C.P., has been appointed Assistant Physician to the West London Hospital.

BOND, F. T., M.D. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Thornbury Rural District Council.

BUTLER, C., M.D. Brux., M.R.C.S., L.R.C.P., has been appointed Anæsthetist to the Samaritan Free Hospital for Women and Children, Marylebone-road, London.

BYERS, W. GORDON M., M.D., C.M., has been appointed Junior House Surgeon to the Royal London Ophthalmic Hospital, Moorfields, E.C.

CAIRNS, W. M., M.B., C.M. Edin., has been appointed an Honorary District Medical Officer to the Ladies' Charity and Lying-in Hospital, Brownlow Hill, Liverpool.

CALDERWOOD, GEORGE, M.D. Glasg., has been re-appointed Medical Officer of Health by the Egremont Urban District Council.

CONDON, F. W., F.R.C.S. Irel., has been appointed a Visiting Surgeon to the Sheil Hospital, Ballyshannon.

CREIGHTON, R. H., B.A., M.B., M.A.O.R.U.I., has been appointed a Visiting Surgeon to the Sheil Hospital, Ballyshannon.

CROWTHER, THOS., M.D. Aberd., M.R.C.S., has been re-appointed Medical Officer of Health by the Midgley Urban District Council.

DARBY, H. C., L.R.C.P., L.R.C.S. Edin., has been appointed a Medical Officer by the Lye Urban District Council.

DIXON, T., M.B., B.S. Durh., has been appointed Medical Officer of Health by the Earsdon Urban District Council.

DONALD, HUGH CALLIGAN, M.B., C.M., F.R.C.S. Edin., has been appointed Acting Surgeon to the Infirmary, Paisley.

FALLOWS, J., L.R.C.S. Edin., has been re-appointed House Surgeon to the Royal Ear Hospital, Soho, London.

GLASSON, C. J., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer by the Joint Committee of the Ellesmere Urban and Rural District Councils.

HOPE, GEO., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer of Health for the Greenford Urban Sanitary District.

KELLY, DANIEL, L.R.C.S. Irel., L.R.C.S. Edin., has been appointed a Resident Medical Officer to the Sheil Hospital, Ballyshannon.

KNAPP, E. M. M., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Hereford District Council.

LATHAM, ARTHUR, M.A., M.B., B.Ch. Oxon., M.A. Cantab., has been appointed Assistant Physician to the Victoria Hospital for Sick Children, Chelsea.

LATTER, CECIL, M.D., B.C., B.A. Cantab., has been appointed Honorary Medical Officer to the St. Andrew's Convalescent Home, Folkestone.

LITTLE, JAMES, M.D. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Maryport Urban District Council.

MACLENNAN, D. N., M.D. Canada, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior House Surgeon to the Royal London Ophthalmic Hospital, Moorfields, E.C.

MACLEOD, HAROLD H. B., F.R.C.S. Edin., L.R.C.P. Lond., has been appointed Surgeon to the Salop Infirmary, vice William Eddowes.

MORETON, REGINALD, L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer to the Chester Infirmary.

MORGAN, A. LUCAS, L.R.C.P. Edin., M.R.C.S. Eng., has been appointed Medical Officer for Out-door Patients to the Swansea General and Eye Hospital, vice J. S. H. Roberts.

PATON, J. H. P., M.B., C.M. Edin., has been appointed a Medical Officer to the Ayr County Hospital.

PEARCE, ARTHUR, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Salcombe (Devonshire) Urban District.

PEARCE, J. P., M.R.C.S., has been re-appointed Medical Officer of Health for Lewes.

PITT, C. WIGHTWICK, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for Malmesbury.

POOLE, C. C., M.R.C.S. & L.S.A. Lond., has been appointed Resident Medical Officer of the General Dispensary and Infirmary, Pontefract.

ROBERTS, J. S. H., L.R.C.P. Lond., M.R.C.S., has been appointed a Physician to the Swansea General and Eye Hospital vice J. A. Rawlings.

ROBINSON, C. A., B.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Royal Portsmouth Hospital, vice W. H. Farmer.

SEARLE, G. P., has been appointed a House Surgeon to the Wrexham Infirmary, vice C. E. Salt, resigned.

SHEPERD, R. J., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health by the Hay Urban District Council.

SILVESTER, W. G., L.R.C.S., L.R.C.P. Edin., has been appointed an Assistant House Surgeon to the Sussex County Hospital, Brighton.

STIRK, P. H., L.R.C.P. Lond., M.R.C.S., has been appointed a House Surgeon to the Exeter Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD ROYAL INFIRMARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence.

CARDIFF INFIRMARY.—Assistant House Surgeon for six months. Board, washing, and apartments provided.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar for one year. Honorarium 20 guineas.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House Surgeon for six months. Board, residence, and washing provided, and an honorarium of £10 given conditionally.

DURHAM COUNTY ASYLUM.—Third Assistant Medical Officer. Salary to commence at £140 per annum, with board, lodging, &c. Applications to Dr. Smith, Superintendent, Winterton, Ferryhill.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—House Physician for six months. Board, residence, &c., provided, and an honorarium of £15 15s. given conditionally.

HUDDERSFIELD INFIRMARY.—Junior Assistant House Surgeon. Salary £40 per annum, with board, lodging, and washing.

NORTH EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch.—House Physician for six months. Salary at the rate of £60 per annum. Applications to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

OWENS COLLEGE, Manchester.—Junior Demonstrator in Anatomy Salary £100, rising by yearly increments to £150.

PARISH OF LAMBETH.—Assistant Medical Officer and Dispenser for the Workhouse, Renfrew-road, Lower Kennington. Salary £100 per year, rising after two years' service to a maximum of £125 per year, with board, apartments, and washing, subject to statutory deductions. Applications to the Clerk, Guardians' Board Room and Offices, Brook-street, Kennington-road, S.E.

PARISH OF ROUSAY AND OGILSHAY, Orkney.—Resident Medical Officer. Salary £51 sterling per annum. Apply to the Clerk of the Parish Council, Rousay, Orkney.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, London.—Assistant Resident Medical Officer for four months. Salary at the rate of £50 per annum, with board, residence, and washing.

ROYAL BERKS HOSPITAL, Reading.—House Physician for six months. Salary £60 per annum, with board, lodging, and washing. Also Assistant Medical Officer for six months. Board, lodging, and washing provided, and an honorarium of 10 guineas given conditionally.

ROYAL EAR HOSPITAL, Frith-street, Soho-square, London.—Assistant Surgeon.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Non-resident Assistant House Surgeon to Out-patient Department. Salary £75 a year. Also Secretary. Salary £250 per annum.

ROYAL VICTORIA HOSPITAL, Bournemouth.—Ophthalmic Surgeon.

ST. GEORGE'S UNION, London.—Medical Officer for the Workhouse in Wallis-yard, Buckingham Palace-road, S.W., and for the No. 4 Medical Relief District of the Union. Salary as Medical Officer of the Workhouse, £50 per annum, and for the No. 4 District £150 per annum, with such extra medical fees as allowed by the Local Government Board, subject to statutory deductions. Applications to the Clerk, Clerk's Offices, St. George's Vestry Hall, Mount-street, W.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Honorary Physician.

TUNBRIDGE WELLS EYE AND EAR HOSPITAL.—Lady House Surgeon for twelve months. Salary £60, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Assistant Physician to the Out-patients, for three years. Also Physician to the In-patients.

UNIVERSITY COLLEGE, Liverpool.—Senior Demonstrator of Physiology. Salary £125.

WALLASEY DISPENSARY.—House Surgeon, unmarried. Applications to Mr. Wm. Heap, Elm Mount, Penkett-road, Liscard, Cheshire.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon for six months. Board, lodging, and washing in the hospital provided.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Ophthalmic Surgeon. Also Assistant Anæsthetist (honorary and non-resident). Also House Physician and House Surgeon, for six months.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—Honorary Physician.

Births, Marriages, and Deaths.

BIRTHS.

JAMESON.—On Nov. 3rd, at Titusville, Penn., U.S.A., the wife of Dr. Hugh Jameson, of a daughter.

KENT.—On Nov. 13th, at Lilliesleaf, Lenzie, Dumbartonshire, the wife of R. T. Kent, M.A. Oxon., F.R.C.S. Eng., of a daughter.

LOWE.—On Nov. 13th, at Horninglow-street, Burton-on-Trent, the wife of Walter G. Lowe, M.D., of a daughter.

REES.—On Nov. 12th, at Devonshire-street, Portland-place, the wife of Milsom Rees, F.R.C.S., of a daughter.

TAYLOR.—On Nov. 15th, at the Cottage, Cullingworth, the wife of Tom Taylor, L.R.C.P., L.R.C.S. Irel., of a daughter.

TWEEDY.—On Nov. 15th, at Abbey House, Kenilworth, the wife of Reginald Carlyon Tweedy, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

CARRUTHERS—DICKSON.—On Nov. 11th, at St. John's Church, Buxton, by the Rev. C. C. Nation, M.A., Vicar, and the Rev. G. T. Carruthers, M.A., father of the bridegroom, E. J. W. Carruthers, M.D., Moody Hall, Congleton, to Mary I. K. Dickson, elder daughter of F. K. Dickson, J.P., F.R.C.P. E., Wye House, Buxton. No cards.

JAMES—RICHARDS.—On Nov. 10th, at Llanstephen, Carmarthen, Gwilym Prosser James, M.R.C.S., of Pencastell, Llanelly, to Amy, eldest surviving daughter of James Richards, of Pantyrathro, Carmarthen.

WADDELOW—HARDING.—On Nov. 11th, at St. Mary's Church, Whittlesey, by the Rev. G. H. Griffiths, John Joseph Waddelow, F.R.C.S. Eng., L.R.C.P. Lond., L.S.A., A.K.C., only son of the late John Waddelow, J.P., to Laura Mary, eldest daughter of the late C. F. Harding, M.D.

DEATHS.

ARMITAGE.—On Oct. 23rd, on board s.s. *Armand Behic*, Joseph Armitage, M.B. Oxon., F.L.S., late of Emu Bay, Tasmania, aged 44 years.

INGLIS.—On Nov. 13th, in London, Alexander Inglis, M.D., M.R.C.S. Eng., L.R.C.S. Edin., of Redball and Auchendinny, Midlothian, and of Montpellier Lawn, Cheltenham, late of Worcester, aged 64 years.

KING.—On Nov. 12th, at his residence, Welford House, Hampstead, Joseph King, M.R.C.S., in his 84th year.

REYNOLDS.—On Nov. 13th, at Douglas-road, Surbiton, Robert Hewetson Reynolds, M.R.C.S., L.R.C.P. Lond., aged 30 years.

SHEPPARD.—On Nov. 13th, at Bognor, Walter George Sheppard, M.R.C.S.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (24th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (25th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (27th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (22nd).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. S. West: Case of Pyopneumothorax of Five Months' Duration Cured by Free Incision, with remarks on the General Treatment of Pneumothorax.—Dr. S. Eccles: The Mechano-therapy of Moveable Kidney.

TUESDAY (23rd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8 30 P.M Discussion (opened by Dr. G. V. Poore): The Prevention of Enteric Fever.

WEDNESDAY (24th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—Papers:—Dr. D. Grant: The Diagnosis and Treatment of the Varieties of Dry Catarrh of the Middle Ear.—Mr. J. H. Targett: The Value of the Microscopical Examination of Uterine Curettings.

SOCIETY OF ARTS.—8 P.M. Prof. J. Douglas: Progress of Metallurgy and Metal Mining in America during the Last Half Century.

THURSDAY (25th).—HARVEIAN SOCIETY.—6.30 for 7 P.M. Annual Dinner at the Café Monico.

FRIDAY (26th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on the paper by Mr. A. H. Tubby and Mr. R. Jones on Some Cases of Pott's Curvature of the Spine treated by Immediate Reduction of the Deformity. A paper by Dr. Redard will be read, and Mr. W. Watson Cheyne, Mr. J. Jackson Clarke, and others will speak. Paper:—Mr. C. B. Lockwood: A Case of Radical Cure of Inguinal Hernia, Injury to the Bladder, Formation of Phosphatic Calculi, Lithotrity, Recovery.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (22nd).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Syphilis as it may affect the Pharynx and Larynx.

TUESDAY (23rd).—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Puerperal, Lactational, and Climacteric Insanities.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Drug Eruptions.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. M. Gunn: On Paralysis of the Ocular Muscles.

WEDNESDAY (24th).—LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Infectious Diseases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Fowler: The Treatment of Bronchiectasis.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4 30 P.M Dr. S. Fenwick: Marasmus, its Pathology and Treatment (Post-Graduate Course)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. A. Whitfield; Medical Cases.

THURSDAY (25th).—LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. G. Oliver: The Blood.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. L. Dickinson: Demonstration on Selected Cases.

FRIDAY (26th).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Erysipelas and Suppuration.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 18th, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
Nov. 12	30·00	S.W.	...	61	58	38	53	54	Cloudy
,, 13	29·69	S.W.	...	63	60	54	57	58	Raining
,, 14	29·65	S.W.	0·24	76	60	54	54	57	Cloudy
,, 15	29·95	N.E.	...	53	47	43	44	45	Overcast
,, 16	30·38	N.E.	0·15	65	55	40	42	44	Overcast
,, 17	30·11	S.W.	...	61	57	44	54	56	Raining
,, 18	30·10	S.W.	...	82	60	54	54	57	Cloudy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

ARE SECOND ATTACKS OF MEASLES INFECTIOUS?

To the Editors of THE LANCET.

SIRS,—I am inclined to believe that second attacks of measles are not infectious. My attention was first drawn to the subject by a case which occurred in my practice some fourteen years ago.

CASE 1.—A middle-aged farmer with a large family of children had what was diagnosed as a well-marked attack of measles. I quite expected that some others of the family would be attacked, but to my surprise no one else took it and I concluded I had made a wrong diagnosis. I am not certain that he had had it before, but from the cases I have seen since I am of opinion that he had.

CASE 2.—In 1895 a farmer, middle-aged, had a well-marked attack of measles. He had had measles before. He had five children, and, his being a small house, no effort was made to isolate the case, but no other member of the family took it. In 1896 there was an epidemic of measles in the village; all his five children were attacked, and he again took it in a severe form.

CASE 3.—A boy, aged fourteen years, was ill in the same epidemic with his second attack and a child, aged six years, played with him, but did not take it; but six weeks after she contracted it from another child.

CASE 4.—This occurred in my practice in September last. A labourer had a well-marked second attack of measles. He had five children; two of them had not had measles, and although no extra precautions were taken neither was attacked.

I am not aware that this subject has been noticed before, but if my surmise should be correct it would be very satisfactory to be able to assure patients with second attacks that no isolation would be necessary and that there would be no risk to any other persons.

I am, Sirs, yours faithfully,

ALFRED KEBBELL, M.R.C.S. Eng.

Flaxton, York, Nov. 15th, 1897.

"SCARLET FEVER AND THE PRACTICE OF MIDWIFERY."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 23rd it is recorded that a coroner's jury expressed their opinion "that no medical man should attend midwifery cases while he has contagious complaints in hand." They were investigating the cause of death in a puerperal woman who was thought to have contracted scarlet fever, the infection of which they supposed to be conveyed to her by the medical man who attended her. It is surely advisable that a strong protest should be made against this opinion, for it only requires to be a little fuller grown to lead to a verdict of manslaughter against some unfortunate member of our profession. In the first place, it is utterly impossible for a man in general practice to decline attending confinements or infectious or any other diseases occurring amongst his patients. If the public wishes for such extraordinary protection they must provide each family their own medical attendant, or at the public expense with medical men to attend only scarlet fever or measles or diphtheria, &c. And since all wounds and injuries, as well as diseases, accompanied by suppuration are "contagious" and liable to infect others, they also would be attended by men specially reserved for such duty—a man for each kind of bacillus in fact. Here is a *reductio ad absurdum*. It is counsel of perfection, utterly impracticable and impossible. Amongst the consultants and specialists—who should set an example to the profession and exhibit to the public the very highest excellence in practice attainable—what do we see? What physician gives up all other practice because he has seen a case of infectious disease? What surgeon refuses operations because he has a case of septicæmia? And does the gynæcologist never perform ovariotomy or consult with the practitioner who has a bad confinement until days after he has examined a cancer of the uterus? All their experience teaches them that there is practically no risk if proper measures of cleansing and disinfection are carried out. And so they teach their students and set an example to the profession. Your remark in THE LANCET of Oct. 30th is quite in accord with universal experience. "We must trust to disinfection and scrupulous care, and that these are sufficient to obviate public risk is proved to the hilt by the rarity of the spread of disease via the medical man." But to discuss the matter in a more thorough and careful way let us ask a few questions and see if we can find answers. In Twickenham, all the medical men are general practitioners; medical, surgical, obstetric, and infectious cases, all alike they attend. The Infectious Diseases Notification Act has been in force since 1890, so that all cases of infectious disease have presumably been known to our medical officer of health and investigated by him. He has very kindly taken some pains to look up his books and official returns to give me the following facts and figures.

Is scarlet fever often carried by medical men to other patients? During the seven years Mr. W. Marston Clark assures me that in not a single instance has he had reason to think that scarlet fever was due to infection carried by a medical man, not even to a puerperal woman.

Are puerperal women more prone to take scarlet fever than others? We used to be taught that they were, but the above answer certainly affords a strong argument for the negative. And how many cases one remembers to have read in the medical papers when puerperal women were exposed to the infection of scarlet fever in the most concentrated form and neither took the disease nor suffered in any way.

Can the infection of scarlet fever produce any other disease in puerperal women? We used to be taught that it caused often puerperal fever. Rashes are known to occur in septic disease closely resembling those of scarlet fever, measles, &c., and indeed indistinguishable from them, and no doubt many cases of septicæmia and pyæmia (not in puerperal women only) have therefore been called scarlet fever. If scarlet fever produces puerperal fever we should certainly expect to find the notifications of the latter particularly numerous when the former is epidemic. Mr. Marston Clark has given me the following figures:—

Year.	Scarlet fever.		Puerperal fever.	
	Cases.	Prevalent in month of	Cases.	—
1890	43	March	2	1 each in January and August.
1891	38	September and October	3	1 each in January, February, and March.
1892	59	July and October	4	1 each in January, April, July, and August.
1893	187	Epidemic from June to September, 114 cases	3	2 in January and 1 in August.
1894	43	No time prevalent	3	1 each in February, March, and September.
1895	28	Ditto	2	1 each in March and December.
1896	44	None in first quarter, mostly in third	4	1 each in February, March, September, and December.

From this it will be seen that puerperal fever has no obvious connexion with scarlet fever. What does cause puerperal fever? That is a very disputed and unsettled question. Is it merely septic fever due to pyogenic bacteria or sewer gas? Has bacteriology helped to settle it? I cannot find any satisfactory account in any book I have, but the British Institute of Preventive Medicine recommends strongly the injection of antistreptococcic serum, and hence we may conclude that the authorities there are satisfied that many cases are of pyogenic origin. If this is the case, the great danger of the puerperal woman is from the surgical and not from the medical part of practice. It points to the necessity of extra vigilance and care in maintaining aseptic and antiseptic surgery, and in thorough disinfection wherever pus in any form is liable to contaminate the hands or clothes on the part of all those who are likely to be called to a confinement.

I hope that others will add arguments or facts in proof of these contentions—that no practical way of escaping from attending confinements or infectious or any other class of cases by the general practitioner has been proposed or is possible; that medical men rarely carry infectious disease; and that they should not be liable to actions or criminal charges if they have shown proper care and taken reasonable precautions in infectious illness any more than they are when signing lunacy certificates. I am, Sirs, yours faithfully,

Nov. 16th, 1897. H. HOWARD MURPHY, M.D. Cantab.

Mr. L. F. Dods.—The name of the person referred to is not to be found in either the current Medical Register or Medical Directory. He is probably the owner of the name which was removed from the Register some little time since.

COUNTY COUNCILS AND SEWAGE.

WE take the following from the *Leeds Mercury* of Nov. 11th:

"At the meeting of Barnsley Rural District Council yesterday reference was made to the fact that Staincross police-station was without a supply of water, and it was stated that the County Council had built police-stations at Cudworth and Staincross, totally ignoring the levels of drains and the provision of water-supply, so that the former could not be drained, whilst at the latter station the people had to fetch water a distance of half a mile. A sewage scheme for Carlton township was approved, and plans ordered to be prepared. A scheme on the septic (*sic*) system, to cost about £4000, exclusive of the land, was approved."

LEAD POISONING AND "DR. PRIESTLEY'S COMPOUND."

To the Editors of THE LANCET.

SIRS,—I beg to call your attention to two cases of lead-poisoning which have come under my notice, and which were due, in my opinion, to the partaking of the above proprietary mixture. The first case was that of a woman, aged thirty-one years, whom I saw on Sept. 14th, 1897. She complained of loss of appetite, severe pains in the stomach and in the calves of the legs, and of sickness, headache, and constipation. On examination I found she had a well-marked "wrist-drop," and a prominent blue line on the gums at their junction with the teeth. I further noticed that the pains referred by the patient to the stomach were really at the umbilicus, and were relieved by pressure. On inquiry I found the water-supply was above reproach, and I could not detect any likely source of lead in my patient's diet. She, however, told me that prior to consulting me she suffered from indigestion and had taken two bottles of "Dr. Priestley's Compound," obtained from a local druggist. Under treatment with opium, sulphate of soda, and iodide of potash she recovered completely. My second case is under my treatment at the present time. She is a girl aged nineteen years, who consulted me on Nov. 2nd for the same symptoms as my other case, but the loss of appetite was more marked and the debility greater. I found the "wrist-drop" absent, but the girl complained of a weakness in the wrist-joints. The blue line was very prominent on the gums. This patient informed me that she had taken, before she saw me, a bottle and a half of "Priestley's compound." This case I am treating like the last and the patient is progressing favourably. I brought the remaining half bottle of the mixture home with me and tested it qualitatively, and found it contained *lead*, bismuth, magnesia, soda, and ammonia. Hoping that these facts may be of interest to you and to the profession.—I remain, Sirs, yours faithfully,

WILLIAM SCOTT, M.B. R.U.I.

Kimberley and Eastwood, Notts., Nov. 13th, 1897.

Mr. F. Treece should consult his medical man.

THE PINEESI SAFETY PIN.

WE have received specimens of a modified form of safety pin known as the Pineesi Safety Pin, and consider that the alterations from the usual shape of pin constitute decided improvements. The pin is curved instead of straight, the fastening being on the convexity of the curve, so that a thicker stratum of substances can be impaled with ease than when the pin is straight. The fastening is ingeniously made to enable the point to be received into its shield from openings on both sides of the pin, thereby obviating a little annoyance that many of our readers have doubtless before now felt. For it is a common experience with medical men and nurses to find that when the ordinary safety pin has been nicely brought together and is just going to be pinned the point has not got to the side where the fastening is, and when the operator has only one hand free this occurrence is very troublesome.

AN ENTERPRISING MALINGERER.

To the Editors of THE LANCET.

SIRS,—A man, aged about forty years, calling himself a telegraph operator and signal-fitter, has been discharged from this infirmary as an impostor. He has visited Paddington Infirmary, I know, and probably many other institutions in London are already acquainted with his history. He gives a history of having undergone an operation for ruptured bladder at Montreal, shows a linear scar from the umbilicus downwards, and does his best to simulate peritonitis with hæmorrhage from the bladder. He has learned the trick of registering tall temperatures, but during the four days he was in the infirmary he was usually content with a temperature somewhere about 102° F. It was only once 104°. I have reason to believe that he found his spectacles useful in producing his hæmaturia. There was a remarkably tender spot in the urethra about three inches from the meatus. My object in writing to you is to warn other institutions against this man. It is possible that he has nearly finished with London institutions, and that he will shortly appear in the provinces.—I am, Sirs, yours faithfully,

W. PEMBERTON FOOKS.

Brentford Union Infirmary, Isleworth, W., Nov. 15th, 1897.

P.S.—He was Alfred Waller, aged forty years, at Paddington in August last; John Goeball, aged thirty-eight years, at Isleworth.

THE OWENS COLLEGE DEBATING SOCIETY.

AT the first meeting for the session of the Owens College Debating Society the subject for discussion was Vivisection. Mr. R. A. Needham, who introduced it, dealt with the character of the opposition, and pointed out numerous cases in which vivisection had been of use both to men and animals, and argued that "the superiority of man was sufficient to justify its practice morally." He moved: "That in the opinion of this house experiments on living animals are scientifically useful, morally justifiable, and have proved of very great service in the alleviation of human and animal suffering." A full discussion took place, and an amendment was proposed and seconded, but the resolution was carried by 36 votes to 8.

W.R.—"Lectures on Medicine to Nurses." By Herbert Cuff, M.D. Lond. (London: J. & A. Churchill, 1896). "Notes on Medical Nursing." By the late James Anderson, M.D. Aberd. (London: H. K. Lewis, 1897).

A HARD CASE.

To the Editors of THE LANCET.

SIRS,—Having been a subscriber to your valuable columns I take the liberty of sending you these few lines, in which I state my case. I have been a medical practitioner in this place for more than twenty-eight years, during which period I have held most of the principal appointments. When the Settle and Carlisle railway was in construction I was appointed contract surgeon for the entire period (namely, seven years). At its completion I applied to the Midland Railway Company for the post of surgeon in this district—which I got, and held for twenty years—and had to resign this and other appointments on account of failing eyesight. I may also add that I was medical officer and public vaccinator for this district for eight years, during which period I received two grants from the Local Government Board for having given most satisfaction out of four other local medical officers. I have been totally blind for the last two years. I still hold the office of medical referee for the Prudential Assurance Company, which one year with another for the last twenty years has brought me in £3 per annum. Could you kindly inform me if there is any fund in the medical profession from which a little pecuniary assistance might be obtained under the circumstances? Apologising for the space I have taken,

I am, Sirs, yours faithfully,

REGINALD R. DUDLEY.

Kirkoswald R.S.O., Cumberland, Nov. 15th, 1897.

"SIGHT-TESTING FOR THE GENERAL PRACTITIONER."

MR. F. DAVIDSON, of 120, Great Portland-street, asks us to state that the work bearing the above title, of which he is the author, and which was noticed in THE LANCET of Oct. 23rd, is to be had only from him, and *not* from the printer, whose name we accidentally inserted as the publisher. Mr. Davidson is desirous that this announcement should be made, as his book is intended for medical men only, and not for the general public.

"WANTED A REMEDY IN SEVERE LUMBAGO."

To the Editors of THE LANCET.

SIRS,—In reply to "L.R.C.P." in THE LANCET of Nov. 13th, I can strongly recommend a mixture composed of tinctura hyoscyami, liquor potassæ and potassii nitras (say half a drachm, forty minims, fifteen grains to the ounce), to be administered every four hours for twenty-four hours and then three times a day. Locally, flannels wrung out of *boiling* water and laid on a folded sheet in bed; then *freely* sprinkled with turpentine; patient to place the lumbar region on the flannel and be well covered up. This application may be repeated every ten or fifteen minutes till the parts assume the colour of a boiled lobster. I have found these remedies *to* be very successful.

I am, Sirs, yours faithfully,

Nov. 16th, 1897. W. B. H.

"A DEATH FROM CIGARETTE SMOKING."

To the Editors of THE LANCET.

SIRS,—Noticing your remarks on this subject in THE LANCET of Nov. 13th we beg to call your attention to the fact that we recently tested for arsenic some cigarettes which a friend assured us had made him ill, and we found an appreciable quantity of arsenic in the tobacco. The paper was free from arsenic. We have had considerable experience in testing our colours and wall-papers for arsenic, and having for our own protection, not without great trouble, obtained a supply of reagents of absolute purity, the accuracy of our test may be implicitly relied upon.

We are, Sirs, yours faithfully,

Nov. 13th, 1897. WM. WOOLLAMS AND CO.

"INVERSUS" WOOLLEN UNDERCLOTHING.

MR. D. GILBERT, of 7, Buckingham Palace-road, S.W., who submitted to us summer substances for vests and drawers which were referred to in THE LANCET of June 12th last, page 1649, has now sent to us similar garments made up in the thicker or winter substance of the same material. It may be useful to repeat that the special feature of the "Inversus" material is its exceptional smoothness and entire absence of the knots and teazles usually associated with woollen underclothing, thus meeting the difficulty of those whose skins are so sensitive as to preclude their wearing the ordinary woollen garment by reason of its irritating effect.

GOVERNMENT MEDICAL APPOINTMENTS.

To the Editors of THE LANCET.

SIRS,—I should feel obliged if you or some of your readers would inform me if there is any published book or pamphlet where one can ascertain the medical appointments which are at the disposal of the Government in its various departments. I am told that such information in a printed form exists, but my informant cannot recollect where he has seen it.

I am, Sirs, yours faithfully,

Nov. 9th, 1897. AN OLD SUBSCRIBER.

*** The Medical Directory (on p. 20 of the current issue) publishes this information under the heading, "Principal Appointments held by Medical Men." Whitaker's Almanac gives supplementary information concerning some of the appointments. We do not know the book to which our correspondent alludes, but think that such a work would be very useful.—ED. L.

Edina.—Our correspondent must supply us with a more detailed account of the incident to which he refers. There is a University of Chicago which grants the degree of M.D. after a four or, at least, a three years' course.

A BREACH OF MEDICAL MANNERS.

THE *Bethnal Green News* of Nov. 13th has been sent to us by four local practitioners, and our attention has been called to an article therein which describes the virtues and capabilities of "Dr." Alfred H. Parker, who has recently, it appears, acquired a practice in the Roman-road. The article in question is illustrated by a reproduction from a photograph of its subject's "genial features" and its contents form a very fulsome advertisement of Mr. Parker, so much so that we have no hesitation in saying that if Mr. Parker supplied the *Bethnal Green News* with the necessary materials for its composition he has committed a grave breach of medical manners. It is necessary for his good name's sake that he should at once repudiate any knowledge of this article in which a distinct attempt is made to dower him with extraordinary talents to the manifest prejudice of his professional brethren whose honour, not to say whose good taste, prevents them from making similar degrading bids for public support.

During the week marked copies of the following newspapers have been received: *Wellingborough News, Devon Gazette, Accrington Observer, Bradford Observer, Scotsman, Glasgow Herald, Times of India, Pioneer Mail, Newcastle Leader, Dundee Advertiser, Colchester Mercury, Essex Telegraph, Liverpool Daily Post, Preston Guardian, Hereford Times, Eastern Morning News, Cambridge Express, West Briton Advertiser, Worcester Herald, Architect, Builder, Birmingham Gazette, Sussex Daily News, Leicester Post, Warwickshire Times, Walsall Advertiser, Yorkshire Post, Poole Herald, Northampton Herald, Isle of Wight Observer, Bridgwater Independent, Grimsby News, Bristol Mercury, Westminster Gazette, Lincoln Mercury, Western Morning News, Portsmouth Times, Leeds Mercury, Brighton Gazette, Sanitary Record, Dumfries and Galloway Standard, Local Government Chronicle, The Surveyor, City Press, Mining Journal, Norwich Mercury, Reading Mercury, Hertfordshire Mercury, Public Health, Engineer, Surrey Advertiser, Local Government Journal, Weekly Free Press and Aberdeen Herald, Guernsey Star, Hastings and St. Leonards Observer, Lynn Advertiser, Manchester Guardian, Loughborough Monitor Shrewsbury Chronicle, Waterford Chronicle, Cambridge Daily News, West Middlesex Herald, Northwich Guardian, Salcombe Times, Tadcaster News, Mid-Counties Express, &c. &c.*

Communications, Letters, &c., have been received from—

A.—Mr. A. Doran, Lond; Messrs. Allen and Hanburys, Lond; *Annales de Dermatologie et de Syphilographie*, Paris; Messrs. Arnold and Son, Lond.; Mr. C. Adams, Milford-on-Lea; Mons. J. Astier, Paris; *Archives Provinciales de Chirurgie*, Paris Editor of; Argentum, Lond.; Agram, Lond.

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Z.—Zygoma, Lond.

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